

# VALUE ENHANCING PROCESSES IN BUILDING AND REAL ESTATE

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ValPro (value driven procurement of buildings and real estate) is a case based R&D project in an Eracobuild network with participants from Norway, Denmark, Sweden, Finland, France and Cyprus. The R&D project aims at defining frameworks and business scenarios for a value driven vision, based on state of art and trends, barriers and drivers that can be identified in case studies. This paper discusses barriers and drivers related to value creation in case study of a new office building project procured by a large oil and gas company. The case study shows that despite the clearly defined strategic goals aimed at creating use value for the end user in the procurement documents, the project delivery organizations' value and business models are focused at project efficiency goals and quality as defined by their own discipline. In the paper we argue that in order for an end user organization to make sure the end product will deliver value in use, the organization must exert governance throughout the project, related to strategic business goals and concrete success criteria. Our main thesis is that understanding building projects as critical enablers for realizing operational goals in the short run and sustainable values in the long run is essential to consolidate strategic value creation related to project goals. Establishing a business model for a project means establishing a building project context where corporate strategies and long term value creation are emphasized. In the paper we present a Governance Model framework that may enable both the demand and the supply side to focus on both effectiveness and efficiency related project goals.

*Keywords: value enhancement, business model, project governance*

## INTRODUCTION

ValPro (Value driven procurement of buildings and real estate) is a case based R&D project in the Eracobuildii network with participants from Norway, Denmark, Sweden, Finland, France and Cyprus. ValPro aims at defining frameworks and business scenarios for a value driven vision related to building projects; based on state of art and trends, barriers and drivers that can be identified in case studies.

An important objective of the Norwegian ValPro project is to investigate what hampers and what enhances the delivery organization's ability and possibility to create value for the society, user and owner in the initial and pre design phases of building projects. This paper presents the results of one case study in the Norwegian research project. The case is a new office building project procured by a large oil and gas company.

By delivery organization we mean the project team that is responsible for the delivery of the project and includes consultants, designers, contractors, evaluators and managers (Blyth and Worthington, 2010). By initial and pre-design phases we mean all project related activities executed before detailed design and construction. They may be called by different names, but usually include feasibility studies, strategic and detailed briefing, concept development and choice, and scheme or pre-project design.

The concept of value is important in projects. Samset (2003) concludes that three perspectives are needed to have successful projects: the owner perspective focusing on the long-term outcomes of the project; the user perspective focusing on the effects related to using the product i.e. the finished building; and the building delivery organization's perspective focusing on the deliverables or outputs from the project. Satisfying the goals of these three perspectives results in project success and business value for the project owner, but does not necessarily include societal issues and concerns. Therefore the five requirements or success factors endorsed by OECD (as well as by UN and the European Commission) in project evaluations: efficiency, effectiveness, relevance, impact and sustainability (OECD 2010) are the most appropriate criteria against which project value or success should be measured.

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ii. ERA-Net Eracobuild is a network of national R&D programs focusing on construction and sustainable built environments and aims to develop synergies between national programs by sharing strategies and establishing joint programs and projects. Eracobuild has so far defined two thematic frameworks for transnational cooperation: "Sustainable Renovation" and "Value Driven Processes".

International experts conclude however that the biggest challenges in large investment projects are (Klakegg 2009:1):

- User needs unknown, misunderstood or ignored
- Project goals unknown or misunderstood
- Missing commitment from key stakeholders
- Conflicts about goals and/or strategies in the project
- Low economical/financial benefit against investment and cost in use and operation
- Business perspective changes between initial phase and delivery phases

The assertions in the R&D project reported in this paper therefore are two-fold:

In order to make sure that value for the project owner, user and society are fulfilled in building projects:

- A project framework ensuring corporate governance must be in place
- The project owner's business model must be reflected in the delivery organization's business models

## VALUE CREATION – VALUE CAPTURE

Value can be defined in different ways. The common definition is linked to financial measurements of how much a customer is willing to pay for a specified product. However, it is individuals and groups that create the product value. Therefore it is necessary to look at drivers for innovation and creativity as well as how to create value for the client or buyer as well as for the company that develops the product or a building. And how does the management empower the delivery organization and build an ideology that supports and directs an organizational behaviour which will be able to meet the client's needs.

### HUMAN RESOURCE AS A VALUE

Bowman and Ambrosi (2000) define resources as a value when it enables customer needs to be satisfied. In the construction industry resources in this perspective are mainly human resources which are crucial to enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness. Ind (2003) maintains that “using the brain power and creativity” of employees needs to achieve a balance of what the economist Ernst Schumacher called freedom and order. If the organization has a clear ideology, it provides a focus for employees. This is the element of order, and it allows employees to deliver customer focused products and services in the most appropriate way.”

### USE VALUE AND EXCHANGE VALUE

Bowman and Ambrosi (2000) distinguish between value creation and capture of value. They focus on the fact that literature tends to use the term “value” to refer to different phenomena. This leads them to a question of how value is measured by the customer. Does the product meet their needs and how do the customers make judgements about the value of the product. The classical first order effect for users may be difficult to measure in financial terms and at the moment, but will provide value through the use and operation. The use value regarding to Bowman and Ambrosini (2000) refers to specific qualities of the product (building) perceived by customers in relation to their needs, e.g. a hospital building which supports efficient health care, an office building which stimulate and inspires the employees or the acceleration of a car, the texture of the apple etc. Judgements of use value are subjective and individual. Use value is what is perceived by the customer. Customers choose the good that will confer on them the largest consumer surplus (the difference between the customers' valuation of the product and the price paid). The chosen product must therefore be differentiated in ways which are valued by the customer; it must deliver more customer surplus than the alternatives (Bowman and Ambrosini 2000).

Exchange value on the other hand refers to price. The processes which lead to a completion of a building are the result of processes inside the participating companies which create use value and subsequently realize exchange value. In operation the building owner and user capture and realize use value in the building. The amount of the benefits or value depends on to which extent user needs are satisfied. The building in itself still has an exchange value depending on its quality and ability to satisfy future demands. This value depends on to which extent the building is flexible and adaptable, and may adapt to new legislation as well as be transformed to a different use.

If the use value perception applies to all kinds of purchases, as Bowman and Ambrosini (2000) say, the same type of use value judgement should be made by a company when procuring a new building. The belief is that a new building better suited to the core

business is likely to create profit through use value. This requires that the company understands the cause-effect linkage between the use value of the purchased resource and the ultimate delivery of profit. In building design the interventions and skills of consultants and architects are vital to value creation provided they are able to understand the needs of the customer and design a building that are capable of supporting the users value (profit) creation in operation.

The exchange value is normally realized first time at project completion and should be considered as a process throughout the lifecycle. The exchange value at any moment in time will then be dependent of the buildings capability of adapting to changes and subsequently the transformed use value.

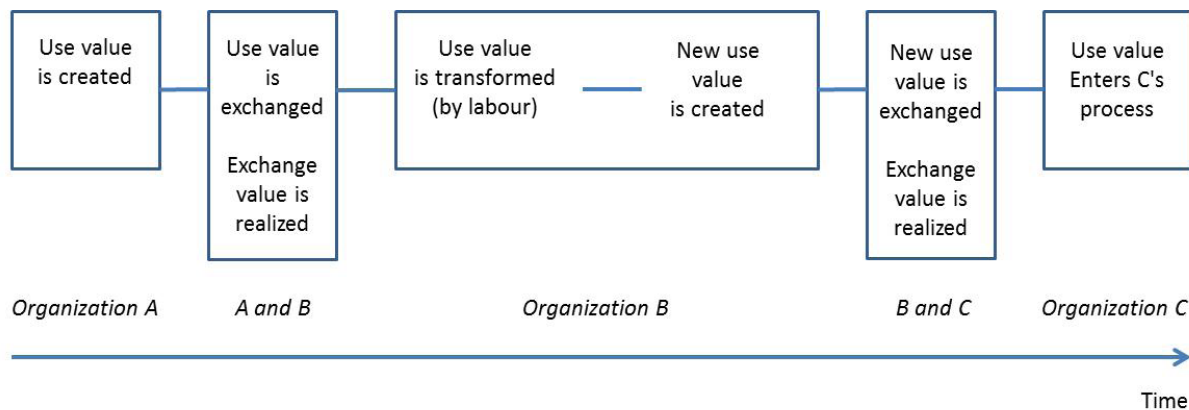


Figure 1: The process of value creation (based on Bowman & Ambrosini, 2000)

## TWO DIFFERENT ORGANIZATIONAL PERSPECTIVES: OUTSIDE IN VERSUS INSIDE OUT

Porter and Kramer (2006) claim that in order to improve a company's competitive edge you need an "Outside-In linkage" that affects its ability to improve productivity and execute strategy. The Outside In strategy takes customer value as its starting and end point. Companies using this approach are focused on creating and nurturing their customers by providing high calibre customer value. They put themselves in the position of their customers, and look at the services or products they are going to deliver from their customer's perspective. The Outside In strategy is also about having a business vision that is forward looking and not looking backwards<sup>iii</sup>. In contrast, the Inside Out perspective only focuses on the company's own capabilities and strengths. With this approach a company will give a customer an account of the company's resources and aim at providing them in the most efficient way. The problem with the Inside Out approach is that by nature it is limiting organizational development and demonstrates lack of agility towards adapting to changes in the market place. Comparing the two approaches suggests a conflict between two fundamental stakeholders which a company needs to deliver to: its customers and its shareholders. If incorporated appropriately, pleasing and keeping customers will increase profits, which then will secure shareholder returns. However, this does suggest a shift in emphasis away from directly trying to deliver to shareholders. Keeping the main focus on shareholder value can easily lead to short-term thinking and an Inside Out approach to business.

The key is to understand that the customer is the source of value, and the market will reward the best value proposition. This is a realignment of values that places shareholder value as an outcome of customer value. Customer value should always be the primary focus.

Outside In strategy focuses on customer value and is based on the belief that the ability to compete is dependent on market insight and ensuring that every part of the company puts customer value first.

iii. <http://www.brandmatters.com.au/outside-in-and-inside-out-strategy/>

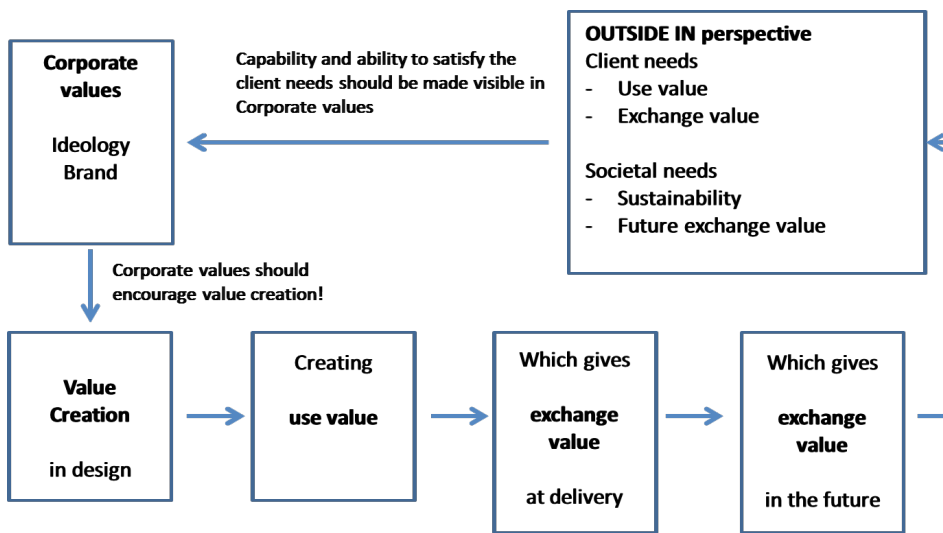


Figure 2: Model illustrating Outside-In perspective on value creation

Collins and Porras (1998) studied eighteen visionary and long-established companies and concluded that throughout the history most of the visionary companies had a core ideology that transcended purely economic considerations. And – this is the key point– they had to a greater degree than the comparison companies in their study a core ideology. Core ideology consists of core values and core purposes. Core purpose is a *raison d'être*, not a goal or business strategy, according to Collins and Porras (1996). They define core ideology as the enduring character of an organization – a consistent identity that transcends product or market life cycles, technological breakthroughs, management fads and individual leaders. The core ideology provides the glue that holds an organization together through time. And they continue saying that the ideology consists of two distinct parts: Core Values – a system for guiding principles and tenets; and Core Purpose, the organization's most fundamental reasons for existence.

This core ideology according to Ind (2003), reminds one that the purpose of building employee commitment is to deliver value to customers. Collins and Porras (1998) argue that the content of the core values does not matter, any words will do. The important thing is to have the values and to integrate them into the organization.

While the “outside–in linkage” tells you what is expected from customers and society and reflects a market driven strategy, the “inside–out linkage” focuses on the company's resources and capabilities of creating value. The inside out- focus is limiting the company's ability to adapt to changes in market conditions and reflects a strategy relying on internal capabilities such as processes, technology and design. Typically an inside-out driven company focuses on systems and planning and a belief that this is what the market asks for.

## A VALUE MODEL

A value model is the systematic approach to a value creation culture. In diagnosing and changing organizational culture Cameron and Quinn (1999) state that organizational culture is reflected by what is valued by the organization, the dominant managerial and leadership styles, the language and symbols, the procedures and routines and the definitions of success that make an organization unique.

A value model should thus reflect client's expectations of value creation and how the delivery organizations are expected to solve the problems for internal and external benefits. The focus on use value and the outside in market strategy underline the importance of an alignment of production and design strategy with the customers' expectation of created value. The model of creating values should clarify the usefulness of the delivery team's resources in the use value creation process.

The project owner's value models are vital for value creation in projects –as a basis for defining the performance criteria governing the project success, and for guiding the procurement and execution process. Likewise the project delivery organizations' value models are important as a basis for composing projects teams that are able to answer in an intelligent way the project owner's value quest for value creation in a project.

# A FRAMEWORK FOR CREATING VALUE IN BUILDING AND REAL ESTATE PROJECTS

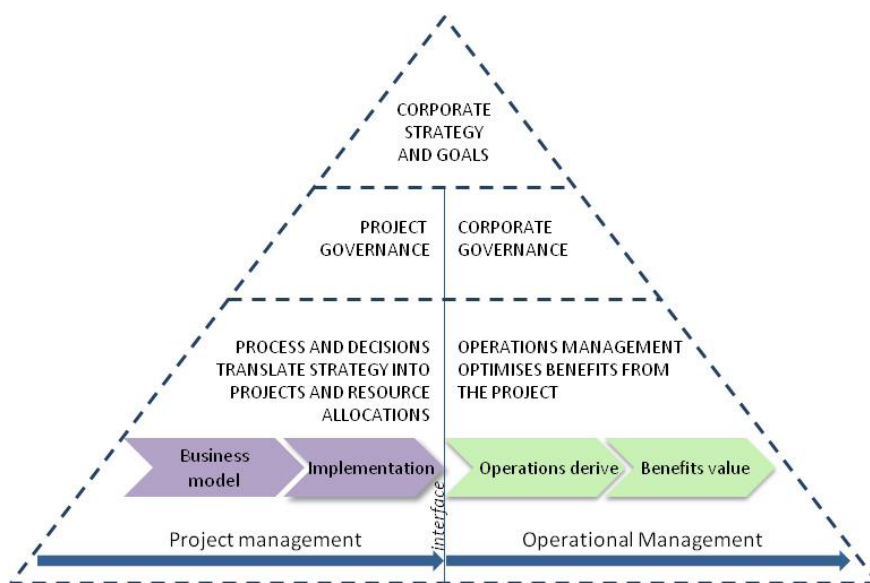
A literature survey has been conducted related to governance and business models aimed at building a theoretical framework for creating value in building and real estate projects. The framework created is presented in the next chapter.

## GOVERNANCE

Projects must have their reason based on organizations' business strategy. Governance also includes structures which make it possible to establish goals and choose instruments for achieving the goals. In accordance with this principle, the project organization must establish a strategy and define long-term goals, aligned with the project owner's strategy. A model must be established showing how the relationship between the permanent owner-user organization and the temporary project organization shall be handled. The model must secure the strategic goals of the owner, i.e. the project success, and at the same time avoid reducing the scope and productivity of the project, i.e. the project management success.

Cooke-Davis (2004) points to the fact that factors for project management success does not necessarily lead to project success. While factors for project management success are often directed at time- and cost measures, project success is related to the project owner's major goals. In a professional project delivery organization put together and managed according to project management success factors, the probability for achieving goals related to success criteria like time and cost are high. The project delivery organization are expected to deliver the project in accordance with the given input; while effect related goals and benefits realization are normally left to the owner organization, who by operations management must realize organizational success (Cooke-Davis, 2004).

A critical success factor for project success therefore is the existence of an effective benefits delivery and management process that involves the mutual co-operation of project management and client organization line management functions.



**Figure 3: Cooperation between Project and Operations Management in a strategic perspective (based on Cook-Davis 2004)**

Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined (Müller, 2009).

Project Governance involves the same basic structure as Corporate Governance and is the responsibility of the organization's board of directors. Their main task is to establish definitions and goals for the project. A major governance activity is to put in place the means to achieve these goals. While the corporate governance handles the way benefits are realised in operation, the project governance is dealing with how to deliver the capability to realize benefits or values in operation (OGC, 2007).

## STAGE GATE PROCESS™ MODEL

The so called Stage–Gate Process Model™ (Cooper, 1988) is regarded by several organizations to be an appropriate tool for developing not only project management success, but also project success. The model is characterized by an efficient cross-disciplinary teamwork towards decision points, with set deliveries and related demands and a continuous interaction with the project owner. This process aims at optimizing the dialogue between the project owner and the project, and decisions aimed at value creation. Attention to project success factors and coordination against project management success factors occurs by interaction between the project owner and the project execution organization in a stage- gate model. Typical features in a stage- gate model are:

- Clearer definition of roles than in conventional Project Models
- Corporate Management/project owner is the ultimate decision level, at the decision gates
- Project manager and project management team are responsible for the progress, and project performance, including generation of decision facts and material at the decision gates (DG)

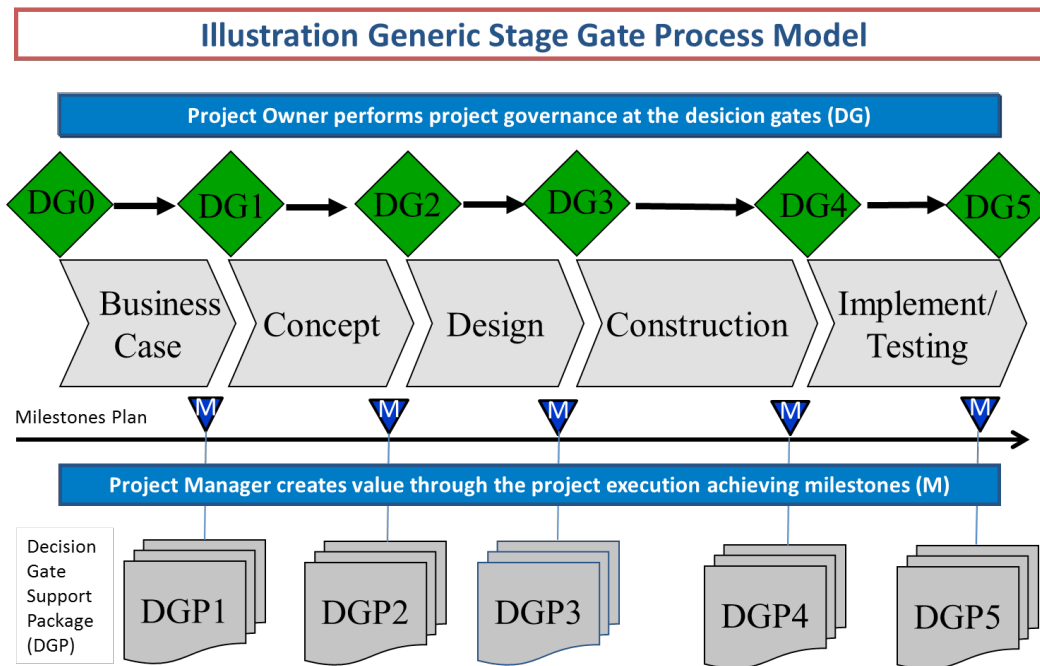


Figure 4 Generic Stage Gate Process Model (source: Jon Lereim 2010)

## BUSINESS MODELS

As said before, the building sector is mainly focused on reducing investment costs, rather than applying more comprehensive approaches for optimizing total facility life cycle values for the benefit of owners, users, and the society. This is of course due to several factors, among which current business models that do not provide for innovation and value creation are assessed by the R&D project as one of the most important.

No generally accepted definition of the term business model has emerged till now, and there is also confusion about terminology (Morris et al. 2005; Shafer et al. 2005; Zott et al. 2010). Wikipedia's definition of Business Model is general and easy to understand: "a business model describes the rationale of how an organization creates, delivers, and captures value – be that economic, social or other forms of value". In theory and practice, according to the same reference (Wikipedia 2011), the term business model is used for a broad range of informal and formal descriptions to represent core aspects of a business, including purpose, offerings, strategies, infrastructure, organizational structures, trading practices, and operational processes and policies.

Shafer et al. (2005), after reviewing relevant literature, concluded that business is fundamentally concerned with creating value and capturing returns from that value, and a model is simply a representation of reality. They also concluded that neither value creation nor value capture occurs in a vacuum. Referring to Hamel (2000) both value creation and capture occur within a network which can include suppliers, partners, distribution channels and coalitions that extend the company's own resources.

Morris et al. (2005) claim that a standard framework for characterizing a business model must be reasonably simple, logical, measurable, comprehensive, and operationally meaningful. They suggest a framework that consists of three increasingly specific levels of decision making: Foundation level; Proprietary level; and Rules level. The three levels reflect the different managerial purposes of a model.

While the foundation level is adequate to capture the essence of a model for many firms, sustainable advantage ultimately depends on the ability of the firm to apply unique approaches to one or more of the foundation components. The proprietary level entails innovation unique to a particular venture. Where the foundation level is generic, the proprietary level becomes strategy specific. Where the foundation level is fairly simple to replicate by competitors, the proprietary is not. Once implemented, a model's success can be tied to a basic set of operating rules or guiding principles. These guidelines ensure that the model's foundation and proprietary elements are reflected in on-going strategic actions.

A well-formulated business model must address six key questions on each of the above levels:

- How do we create value?
- Who do we create value for?
- What is our source of competence?
- How do we competitively position ourselves?
- How do we make money?
- What are our time, scope, and size ambitions?

The Morris et al.'s (2005) business model framework is a tool for both checking and securing compatibility between the different stakeholders' business models in projects.

#### PROJECT RELATED PERFORMANCE CRITERIA

UN, OECD and the European Commission have endorsed five criteria for what projects ought to strive for: efficiency, effectiveness, relevance, impact and sustainability. Delivering efficiently and successfully a well-defined, pre-specified project within a clearly defined constant environment are usually considered to be correspondent to the efficiency requirement. According to Samset (2010) efficiency represents only the immediate indications of a project's success in delivering the outputs. There are many projects that score highly on efficiency, but prove to be disastrous in terms of their impact and utility in the short and long run. The IMEC study by Miller and Lessard (2001) distinguish between efficiency and effectiveness of project success, where the latter points to the value generated by the project. Samset (2010) distinguish between a project's strategic and tactical performance. Success in tactical terms means meeting short-term performance targets, such as producing agreed outputs within budget and on time. These are essentially project management issues. Strategic performance includes broader and longer-term considerations as to whether the project should have sustainable impact and remain relevant and effective over its lifespan.

Strategic project performance is what should be strived for in order to create value for the project owner. In the Governance model presented in this paper we have divided strategic performance criteria in two groups: User effectiveness and Long term effectiveness goals. They can be concretized in different ways by project owners. Here we have concretized User effectiveness goals as Life cycle costs, Quality (functionality), Flexibility and Usability, and Long term effectiveness goals as Adaptability, Transformability and Environmental impact.

## A FRAMEWORK FOR CREATING VALUE IN BUILDING AND REAL ESTATE PROJECTS

The study of theory related to cooperation between corporate governance and project governance (see Figure 1) and business models has led us to develop a framework shown in Figure 3. Named a Governance model, it serves as a theoretical framework for understanding what hampers and/or enhances value creation in the early phases of building projects.

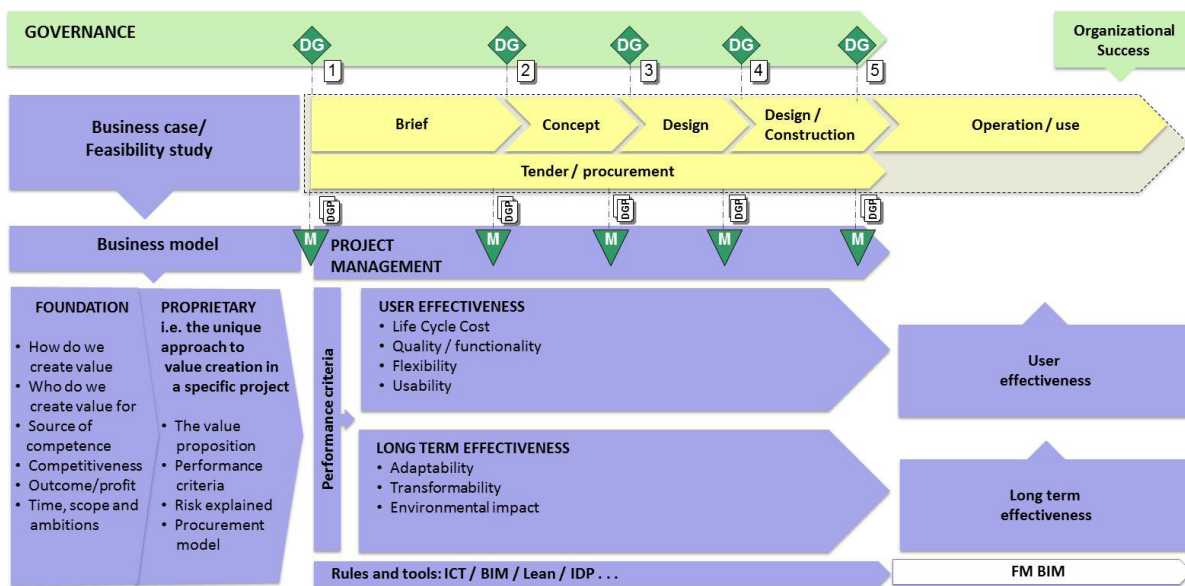


Figure 5 Outline for a Governance framework. SINTEF (source: Byggforsk & Rambøll Norge 2011)

## RESEARCH DESIGN AND METHOD

References to the use of theory usually involve the formation of hypothesis of cause-effect relationships. These theories would therefore be considered relevant to explanatory case studies. Theories however also can be important for descriptive case studies. A descriptive theory is not an expression of a cause effect relationship. Rather, a descriptive theory covers the scope and depth of the object (case) being described (Yin 2003). This theory, Yin continues, should be openly stated ahead of time, should be subject to review and debate, and will later serve as the design for a descriptive case study. In our situation, a rich literature and debate about the limitations of project management and delivery organizations to deliver strategic project value, allowed us to create the theoretical model for value creation in building projects – the Governance model described in the previous chapter. The assertions behind the model as described earlier in the paper are:

In order to make sure that user effectiveness and long term effectiveness for owner and society goals are fulfilled in building projects:

- Project governance (the use of governing mechanisms) on behalf of the project owner and user organization is needed
- The delivery organization's business model must reflect the project owner's business model

The study is a descriptive case study (Yin 2003) where the theoretical model has been used as a framework for analyzing two project cases, focusing on two elements:

- the project owner's governance model
- the main stakeholders' value and business models

The cases are two major projects, one private and one public, chosen by the project owners who are participating in the R&D project. The logic for the selection of the cases is based on the relevance of the cases being test-sites for the theory (Denscombe 2003), the theory being the Value theory explained and the Governance model developed in the project.

The empirical data have been collected by document studies and interviews with the main stakeholders in the project delivery organizations and project owner and user organizations. The theoretical model and empirical findings have been presented and discussed in workshops with the main case stakeholders. In late 2011 the findings and preliminary conclusions will be presented and discussed in a wider audience with invited stakeholders from real estate and building organizations. One of the case studies constitutes the empirical basis for conclusions presented in this paper. However, the empirical findings in the other case study confirm this paper's conclusions.



## CASE DESCRIPTION

The project case, here called FBO, is the new international headquarter of one of the world's leading oil companies, for 2500 employees. It encompasses approximately 65.500 m<sup>2</sup> and the company will start moving into the HQ in September 2012. The project was procured by the oil company in a competition where they received 40 different real estate proposals from developers in the region. Among the forty proposals the oil company chose five for further development and negotiations about cost and functional and other building qualities. Four months later they chose the winning concept and started the final contract negotiations with the developer. In the contract the company had an option to either buy or rent the finished building. They eventually decided to rent the building on a 15-year lease contract. The company is named the project owner in this paper, while the real estate developer is seen as part of the delivery organization.

### THE PROJECT OWNER'S VALUE AND BUSINESS MODEL

On the foundation level, the oil company's business model is of course to create value through up-, mid- and downstream activities related to oil & gas, and pursuing business opportunities for renewable energy production and carbon structure. They position themselves competitively by using their core expertise, competence and capabilities to create profitable business in their existing positions and develop new opportunities for value creation. They make money by finding and/or getting access to national and international oil- and gas resources. What does the oil company do on the proprietary level of their business model in order to attract and retain their core expertise and create profitable business in new and existing positions? Merging with another company in 2007 is one action. Co-locating new and existing employees in a common building is one element in the integration process. Creating a workplace which enhances the integration of and collaboration between employees is another. "Value is created through collaboration" says the oil company's Handbook 2010. The company's work space design model shall enhance collaboration and their vision for the new headquarter is that "FBO will be an exceptional place to perform and develop". In the contract documents they explain what their business model implies for the design of the building and the work space:

- Arrange for future ways of working by
  - Architecture and technology that support new ways of working
  - Stimulate new work processes
  - Integrate collaborating partners in our work processes
- Support collaboration, communication and learning
  - Company adapted work space solutions that are robust for change
  - Flexible work space solutions with ample opportunities for meeting spaces
  - Functional and reliable ICT solutions
- Express well-being, solidity and safety related to company goals to be a
  - Leading organization related to EHS
  - Preferred organization to work for employees and an attractive and innovative workplace when recruiting

### CORPORATE GOVERNANCE BY THE PROJECT OWNER

The oil company's governance philosophy and model is based upon procurement of large off-shore and on-shore oil & gas installations. The company's project director and the director for procurement underline two important factors behind governance success in projects:

- Using substantial resources up-front
- "Preparing is everything"
- "It's the up front preparations which determine the results and value creation for the company".
- Using the right resources in the project
- "Very competent persons designing and negotiating the contract"
- "Everything is based on knowledge and competence... in important project functions"

The company has a risk-based approach to governance. Three elements are fundamental in their governance model:

- The preparations done up front embodied in the contract and specifications. The contract is comprehensive and detailed and gives the oil company all rights reserved regarding design or other changes in the project
- Risk assessment of own and delivery organization's competence and complementing where necessary. The oil company's focus on knowledge and competence implies that their building projects are too important for them to be left to chance
- Continuous quality and risk management and control throughout from the start to the end of the project process – including the warranty period

The company's governance function and quality and risk management and control are organized in two internal sub-projects:

- Quality assurance and risk management of the building project – including enhancing building elements and products innovation
- Quality assurance and risk management of the work space/interior space project – including piloting collaborative workplace solutions and technologies as well as products

Decisions are taken on two levels, depending on the time/cost effects of the issue:

- Project director
- Governing committee representing the tenant i.e. the oil company's top management

The oil company both want and expect suppliers to innovate in this project, and their right to push innovation is stated in the contract with the real estate developer.

## THE REAL ESTATE DEVELOPER'S BUSINESS MODEL

The real estate developer is a small business organization, in charge of developing a large former airport site into a knowledge based industrial area including housing and services. For project development and execution the developer contracts with a project management firm as well as with architects, engineers and other consultants. The developer practiced two different business models in this project case, one initially, in the competition phase, and one after the contract was signed.

### Phase one

Winning the competition and capturing the oil company as a customer was important for the developer. The oil company is a large and well-known organization which may also attract other companies to the site. The business question raised on proprietary level was "how do we competitively position ourselves" and create a unique proposal. The developer used extensive resources in the competition and concept development phase. They were uncertain about the oil company's architectural preferences and project cost expectations. Therefore they developed two competition proposals on two different sites, by two different architects firms. The proposal situated on the sea site and characterized by a more spectacular architectural design than the other one and was chosen by the oil company for further development in the competition. Subsequently this proposal was also the winner of the final competition. The developer and the team of the project manager and the architects worked hard to develop a concept scheme and a video presentation that eventually would convince the oil company to choose them, which they did. According to the developer "the video really convinced them".

### Phase two

Having won the competition, the real estate developer's business model no longer dealt with winning a competition. Their business model in phase two was about design and execution of the building project, as it was defined in the contract, project brief and specifications.

The relatively young architects firm who developed the winning concept was regarded as strong on concept design, but as a potential risk by the project manager because of their lack of design management experience. The project manager therefore contracted another architects firm to supplement them. The oil company likewise contracted an architect on their team to advise them on functional and usability issues related to the building design.

There is nothing in the developer or the project manager's business model that indicates any unique approaches on how to create value in phase two of the project. As the real estate developer says: "The value was created in the competition phase". The project is managed according to well known project management rules, except for one thing; the procurement of the office building contractor. In the contract, the oil company has a right to influence the choice of main contractor for the office building. The reason why the company was concerned about which main contractor was chosen is that the company's brand may be damaged if anything happens in the execution phase. The bidders' key personnel for project management in the construction phase was interviewed by an experienced head hunter firm as part of the decision process, and was an influencing factor on the choice of the bidder who is constructing the office building.

## THE DESIGN GROUP'S VALUE AND BUSINESS MODEL

### The architects

The architects firm behind the winning concept was founded in 2000. Their business model is "to work with big scale projects, to

effectively merge the commercial potential with conceptual value in architecture<sup>iv</sup>”. During the past 10 years they have participated in a large number of architectural competitions and position themselves competitively by “exploring conceptual and technical processes and navigating between experimental fields and methods”. They try to “challenge established processes, and involve the key decision makers from the very early stages of the projects. They question different alternatives, finding synergies and curating the different interests involved in the projects”.

The oil company’s office building is one of two big scale commercial office building projects that the architects are designing at the moment. One important success criteria for the architects has been that the oil company would choose their architectural concept in the competition and not alter it much during the following process. The concept with five similar lamellas crossing above each other is genial according to the architects. Not only is the buildings’ footprint small compared to the total size of the building, but the concept is such that a person can only see three lamellas at the same time. The concept and the fact that the oil company was the user were the reasons why the municipality accepted rezoning of the site from housing to business purposes. The real estate developer understood this early in the process according to the architect.

The architects’ goal was to “create an architectural landmark” and “an integrated technical solution while retaining the initiative in the design process”. They perceive the office building as “a machine, where white steel and glass in the facade contrast the outdoor park area”. The architects see the oil company as being focused on functional and technical issues, their corporate image more related to interiors than architecture. Inside the building the architects believed it right to reflect the park using wood as a main material on the floors, communication towers etc. This however was turned down by the oil company for use and maintenance reasons.

The architects have found it challenging to deal with “two clients” i.e. the developer and the oil company in the pre-design phase. The governance model in the project does not resemble models used in “speculative” commercial development projects. They find it challenging to deal with the oil company’s own architect advisor, receiving user requirements presented in the shape of a design lay-out for the common areas which are the architects’ responsibility. The oil company has responsibility for the lay-out of the work space areas and furniture.

### **The civil engineers**

The company contracted for almost all the civil engineering disciplines in the case project is one of five large engineering companies in the country, but had never worked for the real estate company before. Their business service concept (business model) is to “improve the client’s operations and secure his investments. The expected results of a project, as perceived by the client, shall form the basis for their activities, secured by:

- Clarifying the client’s needs and challenges initially
- Offering the client what he actually wants, not what we would like to provide
- Focusing on results and profitable solutions, not just by providing our “efforts”
- Carrying out projects as mutual learning processes for all the people involved
- Facilitating a good working relationship with the client, by ensuring that the project is carried out in an open, timely and effective manner and that the output from the project meets client expectations<sup>vi</sup>

The company wants to position themselves competitively by being front runners regarding innovation. A PhD candidate is hired to develop a work shop methodology for developing new ideas and solutions and a system for sorting out the best solutions to proceed with. Innovation groups are assembled across disciplines. Innovation prizes are awarded once a month. It has proven difficult to sell this service to customers however.

The engineering goal in the office building project case has been to create the “best possible solutions in all disciplines”. They perceive the goals related to environmental and low energy solutions as being the most important for the oil company and after that functionality.

The engineering consultants did not have direct contact with the oil company, but the company has influenced the design of the support construction in the office lamellas. The engineers had designed 3 trusses in each lamella and 4 in the top lamella plus columns. Columns and mid trusses were removed by the oil company to improve the functionality and usability of the work space

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iv. [www.a-lab.no](http://www.a-lab.no)

v. Ibid

vi. [www.norconsult.com/aid=9033572](http://www.norconsult.com/aid=9033572)

areas. The engineers' warned about risk for uncomfortable vibrations. Also the HVAC system solutions have been a challenge for the engineering consultants because of the lamella construction and no room for central conduits.

## THE PROJECT GOVERNANCE MODEL

The oil company's only contract in the project is with the real estate developer. Consequently the company formally only relates to the developer throughout the process. The real estate developer contracted the project management firm, the designers and other consultants, and the contractors.

During the pre-design phase, so-called professional meetings were held every second week, where the developer, the project manager and the managers of the architectural and engineering teams reported their work progress, and decisions needed to the oil company's project group. However, the internal decision making procedures in the oil company were such that at a later stage they might contradict the "signals" given at the meetings, or the decisions taken by the developer on behalf of the oil company. This malfunction of the decision procedures as seen from the design group's point of view resulted in substantial redesign during the pre-design process.

While the oil company embraces all the elements in the governance framework presented in figure 3, the project governance function is not safeguarded by the developer's project organization, but by the oil company's project organization. This creates of course a double decker in the communication process, and a less fluid information flow. The construction contracts are turnkey contracts. The architects' design contracts are transported as part of the turnkey contracts in the detail design and construction phase. The civil engineers are kept as advisors in the developer's project organization, but are also advising and doing design work for the turnkey contractor. In this phase the oil company cannot and will not rule works, which relieves the architects. A problem concerning communication and decision making may occur in the construction phase as well according to the developer's project manager, due to great time pressure. He anticipates issues which have to be discussed and decided upon by the oil company in this phase too.

## SUMMARY CASE FBO

### VALUE AND BUSINESS MODELS

The oil company's value and business model regarding the new office building is of course aimed at strategic business related visions and goals. For the oil company the building is a tool to help secure their business competitiveness and success. Their functional demands for the use value of the building reflect their strategic business goals. The company also wants the building to brand their corporate responsibility identity by asking for environmentally friendly and energy saving solutions. Because of time pressures the oil company put an advertisement in the papers saying that the oil company looked for a new office building to let or to buy, when it should be delivered, total m2, and a brief list of overall qualitative objectives for the building. They got 40 proposals, chose 5 for parallel development and negotiations and after four months picked the winner.

The real estate developer's value and business model regarding this project was at first geared at winning the competition. They safeguarded in the first round delivering two very different concepts. Being pre-qualified for the second round with one of the concepts, they used extensive resources on further development of the concept and on a spectacular video presentation, to convince the oil company that they were delivering the highest value among the competitors.

Having won the competition and starting the pre-design and specification phase for a turn key tender, the developer's value and business model turned into a classic project management model, geared at controlling that the design and construction deliveries were in accordance with the tight time schedule and the project budget. They also had to control that the oil company's quality and functional demands during the pre-design phase were in accordance with the contract or additional requirements.

The architects' value and business model for the office building is first and foremost about creating an architectural landmark which can win them praise in architectural journals and architectural prizes – of which the building already got one<sup>vii</sup>. Of course they wish for the oil company to praise their architectural solutions too. They find the oil company too focused on functionality and operational issues, i.e. use value, and more interested in branding the company by interior design than architecture, as the architects see it.

The engineering consultant firm's value and business model is in general geared at understanding and solving clients' problems.

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vii. WAF awards 2009

However, in the office-building project they were overrun by the oil company's project organization regarding their proposed construction solution. The issue was what they as engineering consultants considered important, i.e. use comfort (fear of swinging due to construction solution) versus use value as seen by the client, i.e. office space use quality and flexibility, which were one of the important business related goals of the oil company.

Analysing the real estate developer and their project organization's business models in this case, they seem to be far from supporting the oil company's value and business model related to their new office building. What could have hampered value creation for the oil company in this case is the Inside – out disciplinary value focus of the designers, the architects and engineering consultants alike, and the classic operational project management focus of the real estate developer's project organization. What helped enhance value creation in this case was the client's, i.e. the oil company's corporate governance function.

## GOVERNANCE

The oil company is a multiple client of large projects, both on-shore and off-shore. Their experience is that regardless of delivery organization and project, they have to complement with own or hired competence as part of their corporate governance function. They believe in strong corporate governance in projects and a clear division of roles between delivery organization and client. They are not in favour of partnering models. An important part of their governance is the up front contract work which regulates the work of the delivery organization and the absolute rights of the oil company regarding project specifications and qualities.

The oil company embraces the governance framework or model presented in this paper. Their project governance organization includes the project management part in the model, overlapping or shadowing the real estate developer's project management function. The oil company's project organization exercise continuous quality and risk management throughout the project process. The case analysis shows that without the corporate governance function in this project most probably use value related to effectiveness in use and operation would have been lost on behalf of the oil company.

The question is why a complementation of the developer's project management organization in order to safeguard use value creation on behalf of the client, i.e. the oil company, is necessary. The answer in this case rests with the delivery organizations and their Inside – Out perspective on value creation for the client.

## CONCLUSIONS

The assertion in this paper is that in order to make sure that value for the project owner, user and society are fulfilled in building projects:

- A project framework ensuring corporate governance must be in place
- The project owner's business model must be reflected in the delivery organization's business models – i.e. the delivery organizations must have an Outside – In perspective on value creation.

A comprehensive governance framework or model that mirrors our assertion has been developed and tested in two project cases, one private and one public. Our conclusions so far are based on the case study presented in this paper. The empirical findings in the other case study however confirm our conclusions in the paper. Analysing the real estate developer and their project organization's business models in this case, their models are geared at classic commercial real estate and operational project management success criteria. The business models of the architects and engineering consultants on the other hand are geared at disciplinary and professional success criteria. None of the companies involved on the delivery side seems to have delved into and really understood how important use and operations effectiveness is as an element of value creation for the oil company.

The results suggest that project delivery agents, i.e. the real estate developer and their project manager's focus are on the scope of work needed to fulfill time, cost and quality requirements, i.e. goals on the operative level. Despite paying lip service to customer satisfaction as a major project goal, architects' and engineers' business and value models in this case did not embed goals related to user effectiveness. Disciplinary and not customer related usability and operability needs dominated the designers' agenda. Therefore we conclude that corporate project governance is vital for value creation on behalf of project owners and users in building projects.

The aim of the R&D project reported in this paper is to identify barriers and drivers influencing value creation in building projects, focusing on the early phases of projects. The case study shows that even if strategic goals aimed at creating long term effect and use value for the client and user organization are clearly defined in procurement documents, the project delivery organizations' business models are focused at project efficiency goals and project qualities as defined by their own discipline.

Of course a single case study does not provide enough evidence to conclude that an important barrier for value creation aimed at clients and users, i.e. project success, is the project delivery organization's business and value models. However, the second case in this study also confirms this finding. The findings will be tested in workshops with representatives from the delivery industry in November 2011. Stories from practice and literature on effectiveness and efficiency in the building and construction sector also confirm that the delivery organizations in buildings and real estate in general<sup>viii</sup> still have some way to go before they are able to create value as defined in this paper.

The case study shows that corporate project governance is a necessary driver in order to create value for the client and user organization in projects. In the case study reported here corporate project governance was exercised. This case study's client argued that in order for an end user organization to make sure the end product will deliver value in use, he must exert governance throughout the project, based on strategic business goals and concrete success criteria. That was their practice regardless of being an owner-occupier or renting the building. The case analysis confirms this argument.

Our main thesis therefore is that understanding building projects as critical enablers for realizing operational goals in the short run and creating corporate success and sustainable values in the long run is essential to consolidate strategic value creation related project goals. Establishing a business and value model for a building project means establishing a project context where corporate strategies and long term value creation are emphasized.

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viii. There are of course exceptions!