Success at the start: The transition from sales to project management

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CLIENT AGREEMENTS HUISMAN BASIC DESIGN INVOlVEMENT GENERAL MANAGEMENT

BUDGET CASE A DEMARCATION LIST COMPLEXITY DOCUMENTS

CONTRACT ENGINEERING PHASE FORMALITY HANDOVER COPY

CLIENT ENGINEERS INFORMATION CLIENT DELIVERY-PERIOD CRANE CLIENT E ORGANIZATION

LOI PLANNING PROBLEMS PROJECT SYSTEM PROJECT MANAGEMENT ROLE

SUCCESSFUL PROJECT MANAGER CLIENT D SALES RESOURCES SCOPE

PROJECT-TEAM SPECIFICATIONS TIME STANDARD

Word frequency expressed in font size, derived from all interview transcripts
Acknowledgements

This research report is the result of my graduation internship at Huisman Equipment B.V.. In the last eight months, I really have enjoyed to research an applied problem within this company; the transition from sales to project management. This master thesis is the final element of my master Management of Technology (MoT) at the Delft University of Technology.

The research results would have never been achieved without the opportunities offered by Huisman. I would like to thank Huisman and all people that have contributed to the results. The chief operating officer (COO) Dirk Leenheer was my supervisor at Huisman. The comments he provided and the discussions during meetings were very valuable to this research. Moreover, his support made it possible to perform this research in the top level of the organization. Christien Albers, one of the project managers within Huisman, assisted me to draw up a research proposal and reviewed the final report carefully. To prevent a biased view, my desk was not positioned in the sales or project management department. In contrast, I was located at the office of four project controllers, four estimators, and three planners. I have enjoyed working with them and they have greatly support me to find my way in Huisman.

Besides the support from Huisman, I also would like to thank my graduation committee at the university, including Herman Mooi, Wijnand Veeneman, and Mohammed Suprapto. They supported me to form a research strategy and provided valuable comments to increase the usability of the managerial recommendations. The more frequently assistance from Mohammed Suprapto was especially useful to improve the report structure and found my research methodology.

Niek Maarten Koens

Schiedam, October 2012
Executive summary

Problem statement
The sale and realization of projects are core activities in project-based organizations (PBO). A proper integration of both activities is highly important for the company’s performance. Sales managers and project managers (PM) play a significant role in these organizations and collaborate during the front-end development phase. In this phase, the sales manager often starts a project independently by developing a concept design and drawing up a contract with the client. The PM will become part of the project at a later stage; when it is certain enough that the project will be sold. This certainty might be instinctively grasped by the sales manager or formally expressed in a contract or letter of intent. In these circumstances, the project demands a transition phase in which the responsibility is handed over from the sales manager to the assigned PM.

The stated transition is the point where two fields meet; project marketing and project management. One should expect an intensive dialogue between both fields to enable the development of a well-considered transition method. However, there is a lack of dialogue in both disciplines, and little is known about the integration and transition that take place.

From a managerial perspective, PBO’s often fail to align the sales and project management practices (Morris, 1988; Shapiro, 1977). These companies struggle to manage the transition efficiently and cross-functional conflicts often arise. Given the lack of knowledge in literature and the need of improvement in PBO’s, this research examines the transition in detail. By doing so, it tries to find the answer to the question ‘How can the transition from sales to project management be improved?’

Research design
During the literature review, it became clear that scientific literature does not provide a comprehensive answer to the research question. Therefore, the research objective is to acquire knowledge in order to improve the transition from sales to project management. This knowledge is gained by suggesting a priori construct and developing this pre-specified idea to a detailed conceptual model (inductive & exploratory approach). The priori construct is created by utilizing the knowledge gained from the literature review. The conceptual model is developed by a case study methodology combined with qualitative data, which is gathered from the company Huisman Equipment B.V.. A case methodology is applied to assess how and why certain decisions are taken in a real-life context. The qualitative data is used to discover what is still unknown and to see the world from the perspective of the stakeholders. The cases are studied by examining the following three case study questions:

➡️ What are the transition objectives, methods, success dimensions and context dimensions?
➡️ How should the transition method be adapted to the project context in order to attain a successful transition?
➡️ What is the impact of transition success on project success?

The following steps are taken to develop the conceptual model: (1) describing a priori construct, (2) selecting six cases, (3) conducting a pre-scan over the cases by sending out questionnaires and examining project data, (4) determining the context for each case and identifying conflicts between managers, (5) performing eleven semi-structured interviews, (6) writing six individual case reports,
(7) performing a cross-case analysis by following two different techniques; Coding and Pattern Matching, and finally (8) developing a detailed conceptual model.

**What are the transition objectives, methods, success dimensions and context dimensions?**

The core concepts stated in this question are examined in the interviews. All interviewees provided valuable input to operationalize the core concepts of the transition in applicable dimensions. The proposed dimensions are listed in the following table:

<table>
<thead>
<tr>
<th>Transition objectives</th>
<th>Transition success dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handing over responsibility</td>
<td>Established responsibility at PM</td>
</tr>
<tr>
<td>Creating understanding</td>
<td>Understanding of PM and project team</td>
</tr>
<tr>
<td>Supplying project documents</td>
<td>Completeness and quality of project documents</td>
</tr>
<tr>
<td>Securing concept</td>
<td>Uniformity between concept design and detailed design</td>
</tr>
<tr>
<td>Starting up project</td>
<td>Efficiency of transition process</td>
</tr>
<tr>
<td>Protecting company</td>
<td>Feasibility within boundaries of the company</td>
</tr>
<tr>
<td>Attaining satisfaction</td>
<td>Attainment of satisfaction</td>
</tr>
<tr>
<td>Improving knowledge for the future</td>
<td>Future potential / lessons learned</td>
</tr>
<tr>
<td>Reducing complexity</td>
<td>Shift in complexity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transition method dimensions</th>
<th>Context dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Involvement of project management</td>
<td>Project related context dimensions</td>
</tr>
<tr>
<td>before handover divided over role,</td>
<td>- Contract certainty</td>
</tr>
<tr>
<td>timing and intensity.</td>
<td>- Level of innovation (part of technical complexity)</td>
</tr>
<tr>
<td>b) Involvement of sales management</td>
<td>- Organizational complexity</td>
</tr>
<tr>
<td>after handover divided over role,</td>
<td>- Client Type</td>
</tr>
<tr>
<td>timing and intensity.</td>
<td>- Time pressure</td>
</tr>
<tr>
<td>c) Involvement of specialists during</td>
<td>- Similar project team</td>
</tr>
<tr>
<td>the transition phase divided over</td>
<td></td>
</tr>
<tr>
<td>role, timing and intensity.</td>
<td></td>
</tr>
<tr>
<td>d) Interaction divided over formality</td>
<td>Company related context dimensions</td>
</tr>
<tr>
<td>and dialogue</td>
<td></td>
</tr>
<tr>
<td>e) Attitude divided over readiness</td>
<td>Process related context dimensions</td>
</tr>
<tr>
<td>and mutual opinion of each other</td>
<td></td>
</tr>
<tr>
<td>f) Focus</td>
<td></td>
</tr>
</tbody>
</table>

| How should the transition method be |                                                                   |
| adapted to the project context in    |                                                                   |
| order to attain a successful transition? |

In order to answer this sub-question, the case study data is further examined by the technique ‘Pattern Matching’. This technique is used to find out how each transition method dimension is interrelated to the transition success dimensions. The following causal relations are revealed:

a) Early timing of PM involvement before the handover is likely to contribute to a high level of satisfaction, almost irrespective of the project context. The client will be more convinced of a successful transition and the PM will feel more committed to the project and does not face a fait accompli. High intensity of PM involvement before the handover is likely to contribute to overall transition success if the level of complexity is high.

b) Until the basic design is completed, sales management involvement is likely to contribute to overall transition success if the level of complexity is high. In contrast, low involvement after the handover is likely to result in design differences if the project is highly innovative.

c) Specialist involvement will not only contribute to the completeness and quality of project documents, but the project team will also feel more committed towards the project, have better understanding, and design differences are less likely to occur.

d) A formal transition is most feasible in moderately innovative projects and is likely to contribute to a clearer view on the transition process, an increase in efficiency, and less mistakes. A two-
way dialogue in which the sales manager and the PM both take initiative is possible in moderately innovative projects, and likely to contribute to attaining satisfaction.

e) Willingness to cooperate and mutual respect are important conditions of attaining satisfaction, and thus of creating a successful transition. Being respectful to each other as managers contributes to the attainment of satisfaction and will eventually bring concept engineering and project engineering closer.

f) A balanced focus between selling and realizing projects in the transition is likely to contribute to overall project success, but is less feasible when the sales negotiations are still in full swing.

**What is the impact of transition success on project success?**

In general, the case study data reveals that a successful transition will likely contribute to meeting the project promises on scope, time, costs, and quality. When the responsibility of the PM is successfully established during the transition, the PM will be enabled to perform his/her task and is prevented from being bypassed. Furthermore, the performance in time and costs is likely to become better when the transition succeeds in creating understanding for the project team. This performance will also be improved when the project documents are sufficient in quality to start the project. The discrepancy between the agreed scope and realized scope will be smaller when there is uniformity between the concept design and detailed design. Finally, the satisfaction attained amongst the stakeholders during the transition will be highly beneficial in the project execution.

Nevertheless, a successful transition does not always lead to overall project success. The complexity of a project has a moderating effect. In complex projects it is more likely that a project still fails in spite of a successful transition. On the other hand, in projects of low complexity it is still possible to attain project success after a failed transition. In those projects a skillful PM might correct the lack of transition, or other resources will absorb the shortcomings.

**Conclusions & recommendations**

The theoretical answer to the research question is: the transition from sales to project management can be improved by (1) knowing the core concepts of the transition, (2) knowing the casual relations in the transition, and (3) knowing the impact of transition success on project success. This result is relevant for the contribution to theory, but is less applicable for managerial implementations. For managerial purposes it is more important to understand how everything ties together. In order to obtain this understanding, the research has framed an ideal situation of the transition in Huisman and provides recommendations to facilitate the company in improving the transition towards the ideal situation.

The project start will differ case by case, but a sales manager will start on a project. In the ideal situation, his sales activities should not suppress the importance of the upcoming phase: the transition from sales to PM. The transition phase starts when the sales manager is certain enough that the project will be sold, the manager of projects agrees on the necessity of PM involvement, and the PM gets involved. During the transition phase, the sales and project manager have to collaborate to accomplish a set of transition objectives. The main objective should be to establish the PM’s responsibility as firmly as possible by informing him/her on the project to the greatest extent possible and supplying the right project documents. In the transition, the project background information should be considered just as important as other project documents.
In the ideal transition, the intensity of PM, sales management and specialist involvement should be adjusted to the proposed context dimensions. By means of a proper adjustment in advance, the transition will be effective and resources will be sufficiently dedicated. Sufficient means that the efforts spent in the transition phase are not too little, but also not too much. The involvement of PM should be intensive in complex projects that are critical in time and less intensive in little complex projects that have ample time. The PM involvement should become intense as well if the client relationship is unstable, the client demands a lot of interference in the operations of Huisman and the client formulates extremely detailed contracts. After the contract is signed, the sales management involvement should be intensive in complex project that are highly innovative and less intensive in little complex projects that are nearly standardized. By performing a complex copy project, the sales intensity should also increase if the project team is not similar. Finally, the involvement of specialists should be intense in complex and highly innovative projects.

When the ideal transition proceeds and the project is formally secured in a contract or letter of intent, both managers should schedule a kick-off meeting. Two aspects are important in this meeting: presenting the background information and announcing the handover of responsibility. The transition ends when the sales manager retreats from the project. In complex projects this will last until the basic design is completed. In less complex projects, he/she might retreat earlier. After the transition is finished, both managers should reflect on the transition objectives and discuss the lessons learned.

The research takes into account that the ideal situation above is too idealistic and that the actual affairs are different. The transition is in reality not always straightforward. In a highly complex project the sales phase is very dynamic, has a long time span and gets influenced through a changing context. Therefore, the transition should be flexible and a standardized approach will not always be applicable, or might even be counterproductive. In order to provide recommendations, this research suggests six steps of improvement:

1. **Willingness and respect** are pre-conditions for a successful transition and therefore Huisman is recommended to create an environment where this exists. To establish this, the stakeholders should understand the problem, notice their individual advantages, and recognize the impact on the company’s performances. This research aims to create a sense of urgency within Huisman and the detailed case descriptions will help to understand the current affairs.
2. The managers within Huisman should obtain more knowledge on each other’s procedures. They will gather this knowledge mostly through participating in each other’s phases. As a result, the PM will understand the limitations and dynamics of the sales phase and the sales manager will discover the organizational opportunities and limitations of the project execution phase.
3. The availability of a project manager and a sales manager should increase within Huisman.
4. Huisman is recommended to involve the engineers and prevent isolation. Some engineers work too much in isolation and are too ambitious in attempting to improve the concept. By improving this work ethos the success of a transition is more likely to contribute to project success.
5. Huisman is recommended to change the transition approach. The three main suggestions of change are: The involvement of both managers should become more intensive; Huisman is
recommended to make the transition adaptable to the proposed context dimension; and the project documents should be standardized.

6. After the above 5 steps of improvement, Huisman is recommended to carefully start to apply standardization and procedures. In little innovative projects the transition process should become more standardized and formal. Huisman should develop a tool to determine the timing and intensity of PM involvement. And finally, Huisman should improve the procedure that describes the basic design process.

Further research
A deductive research should follow to validate and improve the conceptual model. Additionally, this cross-case study has a one-company perspective and therefore suggests further research across other PBO’s in the industry and other industries. It would be interesting to consider a company that differs greatly from Huisman. In this research, the sales managers had a technical background and were still ‘engineers’. To compare cases, further research might be interesting at a company where sales managers are much more driven by commerce. Another interesting aspect might be formality. In the cases examined for this research, the transition process was rather informal. Therefore, future research might focus on a company with a very formal transition process, if the impact of formality on transition success is to be revealed.
## List of Important definitions

### Research content

<table>
<thead>
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<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition phase</td>
<td>The overlap of the sales phase and the project execution phase. Stated as, a period in time in which the sales- and project manager collaborate to accomplish a set of transition objectives.</td>
</tr>
<tr>
<td>Handover</td>
<td>A milestone were the sales manager gives the responsibility to project manager and transfers the project documents.</td>
</tr>
<tr>
<td>Project documents</td>
<td>The total package of documents concerning a project, including: contract, planning, budget, technical specifications, technical drawings, demarcation list, and project background information.</td>
</tr>
<tr>
<td>Project background information</td>
<td>A package of documents that briefly describe the verbal arrangements, client personality, project history, and future expectations.</td>
</tr>
<tr>
<td>Contract certainty</td>
<td>The confidence that the project will be sold. This certainty might be instinctively grasped by the sales manager or formally expressed in a letter of intent.</td>
</tr>
<tr>
<td>Fait accompli</td>
<td>A thing that has already happened or been decided before those affected hear about it, leaving them with no option but to accept it: the results were presented to shareholders as a fait accompli (Oxford, 2012).</td>
</tr>
<tr>
<td>Transition objectives</td>
<td>The goals of the transition, which should be strived for in order to obtain transition success.</td>
</tr>
<tr>
<td>Transition method dimensions</td>
<td>A set of factors that operationalizes the method of the transition. Those factors are developed in this research in order to make the transition consistent to the context dimensions.</td>
</tr>
<tr>
<td>Transition success dimensions</td>
<td>A set of dimensions to measure the success of the transition.</td>
</tr>
<tr>
<td>Transition context dimensions</td>
<td>A set of dimensions which will determine the transition approach and/or influences the transition success.</td>
</tr>
</tbody>
</table>

### Research methodology

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A priori construct</td>
<td>A pre-specified idea about which core concepts are expected to be significant in a research. This construct is used to shape the initial design of this theory-building research and does not describe any specific relations up-front (Eisenhardt, 1989).</td>
</tr>
<tr>
<td>Conceptual model</td>
<td>One of the objectives in theory-building research is to move from a priori construct to a specific conceptual model. In the model the core concepts are operationalized to a level in which they become dimensions. Moreover, the model will describe the causal relations between those dimensions.</td>
</tr>
<tr>
<td>Concept</td>
<td>Word that stands for groups or classes of object, events, and actions that share some major common property(ies), though the property(ies) can vary dimensionally (Corbin and Strauss, 2008).</td>
</tr>
<tr>
<td>Core concept</td>
<td>Global and broad concept that is complex and that is open to all kinds of qualifications (Verschuren and Doorewaard, 2010). High level-concept, also called category, which is broad and explanatory, and has a great abstraction (Corbin and Strauss, 2008).</td>
</tr>
<tr>
<td>Sub-concept</td>
<td>More detailed concept that explains and operationalizes the upper core concept (Verschuren and Doorewaard, 2010). Lower-level concept that provides deeper understanding and forms the foundation of the upper core concept (Corbin and Strauss, 2008).</td>
</tr>
<tr>
<td>Dimension</td>
<td>Concept that is operationalized to a level in which it becomes a variable; nominal, ordinal or interval (Verschuren and Doorewaard, 2010). Variation within properties that give specificity and range to concepts (Corbin and Strauss, 2008).</td>
</tr>
<tr>
<td>Nominal dimension</td>
<td>A dimension in which the variation can be presented only in terms of distinct categories (Verschuren and Doorewaard, 2010).</td>
</tr>
<tr>
<td>Ordinal dimension</td>
<td>A dimension in which the variation can be ranked in terms of a degree (Verschuren and Doorewaard, 2010).</td>
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## 1 Introduction

The core business in many engineering companies is executing projects. In these project-based organizations (PBO), the start of a project is significant for the entire project lifecycle and in the end for the overall project success. The importance of proper front-end development (FED) is provided by the Independent Project Analysis (IPA). They collected a database over 300 megaprojects and concluded that over half of the industrial projects have large cost overruns and major delays. According to the founder of IPA, the reason behind this failure is mostly an improper process in Front-End Development (Merrow, 2011). In the FED phase, the design and planning are established and therefore the level of influence is high and the costs for making changes are low. Additionally, the high variety of specialism in this phase demands proper team integration. This research will address a common problem in the start of a project: the transition phase from sales to project management. In this research the transition phase is defined as the overlap of the sales phase and the project execution phase. It should be seen as a period in time in which the sales- and project manager collaborate to accomplish a set of transition objectives.

The problems that managers face during the transition phase have recently been given more attention by the academic world. Scientific calls for the team integration of sales and project management practices are made with respect to marketing, production, cross-functional interdependency and portfolio management (Shapiro, 1977; Morris, 1988; Pinto et al., 1993; Tikkanen et al., 2007). More recently, Cova and Salle suggested six points to bridge the gap between the two disciplines (Cova and Salle, 2005).

From a managerial perspective, PBO’s struggle to manage the project start. Those companies often fail to align the sales and project management practices. Applied research has shown that conflict arises during the transition, because both parties have different values in terms of operating approach, personality and key performance indicators (Morris, 1988; Pinto et al., 1993; Turner, 2008). This conflict can be found in almost all PBO’s and is often a natural tension (Shapiro, 1977). However, this tension should be coordinated in order to increase the transition efficiency and, at the end, contribute to project success.

To explore the transition phase in detail, this research will combine the academic and managerial perspectives in the form of an exploratory case study. All the cases investigated stem from the same company: Huisman Equipment B.V.

This chapter will introduce the research. In section 1.1, the background will be described by providing the problem statement in Huisman. Section 1.2 restates the problem statement in a relevant research problem. Next, the research objective and the main question are phrased. Finally, the research approach and the report outline will be discussed in section 1.3.

### 1.1 Background: problem statement in Huisman

The annual overview of Huisman, presented by the board in the summer of 2011, emphasized the growth and complexity of the company. As was stated in the presentation, “The current size of the organization in combination with the complexity of the product portfolio requires that processes should be defined more accurately and work should be carried out systematically”. The figures show
that the amount of employees has multiplied by ten in the past 10 years, from two hundred in 2001 to two thousand in 2012. In its yard in Schiedam only, Huisman hired two hundred new employees in 2011 (Huisman Board, 2011).

In 2011, Huisman asked an external consultant to assess the culture in the project management department. They concluded that the Front-End Development is insufficient (Banning and Honders, 2011). Moreover, there are two studies, executed by other students, supporting the managerial relevance of this research. The first study recommends that there should be more communication between sales and PM during the sales phase in order to develop budgets that are more detailed (Wilde and Kingma, 2010). In the second, it was found that in most projects the PM has not been involved during the sales phase, and thereby has not been able to provide his/her input (Smit, 2011).

The background information above confirms that Huisman want to improve the integration across departments and develop their processes. The project start, including the transition phase from sales to project management, clearly lacks these promises. In general, it seems that sales and project management are disconnected and the process between inefficient. The disconnectedness stems from the company characteristics and is manifest on a practical level.

Company character
The fact that Huisman is a privately owned company characterized the board as well as the entire organization. The personality of the owner, an ambitious and technically driven entrepreneur, has had and still has significant influence on the company’s giant developments. His entrepreneurial character was conferred onto the company, resulting in an organization driven by sales and the innovation of concepts. The research started in the second half of 2011 and during those days the financial and managerial issues, like project management, appeared to be matters of secondary importance. Here the research encountered the disconnection between sales and project management for the first time. Nevertheless, there were many changes within Huisman during the research and in the beginning of 2012 the company made some big improvements by putting more emphasis on financial and managerial issues.

Manifestation of the problem in practice
The middle management, including the sales- and project managers, experiences disconnectedness on a practical level. They see the transition between both parties not as phase but as a stage where sales managers throw the project ‘over the wall’ to project managers. That means that there is only a short period in which both parties are connected to each other. Project managers contend that this short period results in an unsuccessful transition because the possibility of knowledge accumulation and the possibility to provide input are marginal. Sales managers, on the other hand, point to the fact that the functional requirements of the construction are often met. On the surface, Huisman is indeed tremendously growing and can be seen as a main player in the industry. As a result, the sense of urgency is missing. This is also visible at the project management side because some project managers consider early involvement as unnecessary. Sometimes, they do not want to spend resources before the contract is signed (Huisman Board, 2011).

The disconnection also results in cross-functional conflicts. Sales and project management are often seen as two separated camps. A common focus and willingness to collaborate is lacking. Consequently, conflicts arise because managers from both sides do not respect each other’s values.
Call from the market
Next to the aforementioned internal problems, Huisman also experiences external difficulties. Its market is changing and the company has to adapt to stay competitive in the future. Such changes include: the growing complexity, shrinking margins, changes in client type and new competition.

Firstly, in the industries served by Huisman, the projects become more complex because the clients want to use the equipment in extreme environments. For example, companies drill in ultra-deep water up to three kilometers and want to perform as quickly as possible while keeping the operating costs low. Moreover, the development of enabling technologies and the ambition of Huisman to innovate make the projects even more complex. There are significant developments in electronic and pneumatic systems, for instance. Those systems might be implemented in 600mt cranes and enable heave compensation for waves up to 2.5 meter.

Secondly, the project margins are shrinking. The shrinkage in the crane and pipelay segment is mainly caused by increasing competition. Besides, the companies in the oil and gas industry keep a hand on the purse-strings when ordering more complex equipment. They do so because the energy market is unstable and alternative energy sources are rising.

Thirdly, the type of client is changing. Huisman commonly sells the equipment directly to the end-user, which results in a comfortable relationship between the client and supplier. The current trend is that the end-users are buying a complete ship from the shipyard. Therefore, the shipyards occur as the direct client for Huisman. Those shipyards consider Huisman’s equipment, which fulfills the primary function of the ship, merely as a secondary part on the bill of material. As a result, they organize complex tender processes to get the lowest price (Huisman Sales, 2011).

Finally, Huisman has a luxury position in the market because the demand of the products they deliver is higher than they can supply. Huisman creates this position because they are mainly oriented towards innovation. However, this position can also be dangerous because competitors might be stimulated too by those developments. Huisman’s pipelay equipment, for example, serves almost 90% in the top segment, but currently a customer requests six ships at once. Because Huisman does not have the capacity to take these quotes, the customer is stimulating competitors to develop the equipment as well. Therefore, competition will grow and the return on R&D investment becomes lower.

To conclude, Huisman should take the external problems mentioned above seriously in order to survive in the market. The question arises: how does this influence the connection between sales and project management?

Desired condition
Huisman is aiming to solve or at least control the mentioned problems above. According to Huisman, the desired condition will be a proper integration and coordination of sales and project management practices (Huisman Board, 2011). The first step in the process is to create a sense of urgency among the actors. In the end, the solution should solve the problems in the transition phase and contribute to better project performance in terms of time, costs, quality, and client satisfaction. Finally, the improvements should raise the company’s overall performance.
1.2 Research problem, objective, and questions

As mentioned before, prior research has called for better integration of sales and project management practices. Therefore, the solution to Huisman’s problem might be obvious: connect sales and project management. However, the scientific approaches are difficult to implement on a managerial level, because literature lacks the answer to the question: how? (section 2.5)

Companies are asking themselves what needs to be done to integrate sales and project management practices and improve the transition phase. Questions arise, like: how and to what extent should a project manager and sales manager cooperate? Should they simply sit in the same room? Or should they extremely standardize their work, so that they don’t even have to see each other to cooperate? Who should have the authority and be responsible? When should a project manager get involved in the sales phase? When should a sales manager step back from the project team? How do you create commitment in a project team with a mutual focus? How do you motivate all parties and create respect between them? To what extent do you administrate the process and deliverables?

During the transition the handover takes place. The handover is a clear milestone were the sales manager gives the responsibility to project manager and transfers the project documentation. More questions arise, such as: when should this milestone take place? And how changes the role division between the project manager and sales manager at the handover?

After the transition, companies want to report if the transition phase was successful. Other questions arise, like: how can we measure transition success? To what degree can we quantify the success? And finally, how does the transition success influence project success?

The answers to all questions above are already complex themselves. But even if you could answer those questions for a single project, it might be totally different in another project environment. Therefore, companies want to know what needs to be done to make the transition successful given a certain project context. In other words, companies are searching for a strategy to coordinate the transition phase by considering the project context. Figure 1 visualizes the overview of the stated research problem in the project life cycle.
The main challenge in this research is to get the sales- and project managers together and create a sense of urgency. In the end, the two departments should agree on the coordination strategy. Clark and Brennan stress that building common ground is the core of coordination. They claim that you should always have a shared understanding on how you manage and perform the work together, before you start to act (Clark and Brennan, 1991). Therefore, Huisman should create a common understanding on the coordination in transition phase, before both parties agree on a strategy. This research will execute an exploratory case study in order to acquire the essential common knowledge as objectively as possible. An independent research perspective is highly important in order to create commitment from both sides.

Derived from the research problem, the research objective can be formulated:

- To acquire knowledge in order to improve the transition from sales to project management by exploring the relation between coordination, transition success, and project context.

The following main research question is formulated to accomplish the objective stated above:

- How can the transition from sales to project management be improved?

1.3 Research approach and report outline

The research is carried out by a case study methodology and is mainly based on qualitative data (The motivation behind those choices is discussed in chapter 3). The research is divided in five stages: literature review, design, collect, analyze, and conclusion. Figure 2 reveals the structure of the research and shows that every phase is captured in a separate chapter of this report.
As the research objective suggests, the aim in this research is to explore significant relations. Using a conceptual model is a solid way to investigate and describe dimensions and relations of an event (Verschuren and Doorewaard, 2010). The first step in the research was to perform a literature review. The initial aim of this literature review was to explore if a conceptual model can be built on a detailed level. In other words, the researcher has tried to explore if the dimensions and relations are already operationalized in literature. If so, it should have become possible to test those relations in a case study and thereby answer the main research question.

During the literature review, it became clear that scientific literature does not provide a comprehensive solution to the research problem, nor a well-proven answer to the research question. Therefore, the research is shifted to an exploratory approach. After this shift, the literature review was mainly performed to gain background knowledge and to define the current gaps in literature. The result of the literature review will be an abstract priori construct (visualized in Figure 8 on page 20), where core concepts indicate relatively wide and open phenomena. This priori construct will be used as the starting point for the case study.

Finally, a cross-case analysis will be performed to transfer the priori construct to a detailed conceptual model. The analysis, including the framed conceptual model, will be used to draw conclusions concerning the contribution to theory and the contribution to managerial practices.
2 Literature review

This chapter contains the literature review performed in the first phase of the research. The
literature review was performed to build knowledge and find current gaps in literature. Section 2.1
discusses project-based business in order to sketch the scene for the research undertaken. Next, the
main activities of a project-based firm are examined by literature from the project management field
(section 2.2) and the project marketing field (section 2.3). In section 2.4, the interaction between
both fields is examined by exploring the current scientific dialogue. Section 2.5 tries to discover the
existing knowledge about the transition from sales to project management. As we shall see, scientific
literature lacks a comprehensive description, and therefore section 2.6 explores the transition by
examining wider concepts in science. Later on, the wider concepts will be used to construct a priori
construct and to create a starting point for the case study.

2.1 Project–based business

The performed research examines a company, in which executing projects is the main business. As
discussed later on, the definition of a ‘project’ will differ across scientific fields. Cova and Holstius
have formulated a diagram (Figure 3) to distinguish the project-based business in the world of other
business types. In this diagram a ‘project’ is positioned as a unique unit of production where the
transaction is highly complex (Cova and Holstius, 1993).

![Figure 3 - A transaction/production typology, per Cova and Holstius (1993)](image)

In order to adapt a company structure to a certain business type, several organizational forms are
developed in science. Organization forms are ranging from pure functional forms to pure project
forms.

Functional forms are best suited for executing routing production of standardized goods and
services. The organization is structured in a hierarchal way and employees mainly report to the
immediate superior of their department. In economic terms, those firms are most effective in
exploiting economies of scope and achieving production scale advantages. Finally, the execution of
projects rarely exists in those companies and if so, they will be settled in one of the functional
divisions of the firm (Meredith and Mantel, 2010).
In contrast, pure project-based firms do not have a formal functional coordination across project lines. This type of organization is entirely dedicated to one or more projects. Consequently, the project managers are superior and have the authorization over financial resources and people. This organizational form is focused on creating flexibility and is best suited to manage complexity and uncertainty in large innovative one-shot projects. The form will be economically beneficial in resource allocation, knowledge management, design optimization, and securing quality (Hobday, 2000; Kodama, 2007).

The two pure organizational forms above are the extreme cases in a range of forms. By examining the entire range, the matrix structure comes to light. Hobday has developed a simple model by combining the described forms in literature. The model is pictured in Figure 4 and describes six ideal types of organization forms: (A) functional, (B) functional matrix, (C) balanced matrix, (D) project matrix, (E) project-led organization, and (F) project-based organization (Hobday, 2000). In this model, several types of matrix structures are used to describe the entire range. The equilibrium of this range will be in a project matrix form (Type D), where project managers are of equal status to functional managers.

![Figure 4 - Positioning the project-based organization, per Hobday (2000)](image)

Key:
- F₁, F₄ = various functional departments of the organisation (e.g., Marketing, Finance, Human Resources, Engineering, Manufacturing, R&D)
- P₁, P₃ = major projects within the organisation (e.g., CoPS projects)
- SM = senior management

Note:
- The number of functions and projects will vary according to the organisation in question. Various permutations are used here for illustration.

- Public Version -
The organizational form of a certain company will highly influence the approach to executing projects and consequently, the role of the project manager. By looking at the transition from sales to project management, the sales manager is one of the functional managers in the matrix structure. The applied organization form will therefore determine the distribution of authority between both parties. Additionally, the choice will influence team integration and the manner of collaboration during the transition.

As stated in the introduction, certain conflicts arise during the transition from sales to project management. Literature describes three types of conflict which are caused by the implementation of a matrix structure. First of all, issues related to authority will arise, as there is no unity of command and the decision-making process might be unclear to the employees. Second of all, the assignment of resources can be problematic since each project is different and each project manager has his own interests. Finally, a project will have a cross-functional project team where each member has his own job description and specialism. As a result, friction will arise when the goals and expectation of individuals come into conflict (Meredith and Mantel, 2010).

### 2.2 Management of projects

In the project management field, many definitions of a ‘project’ are provided. The second edition of the handbook of project-based management states the definition of a project as:

> “A project is an endeavor in which human, financial and material resources are organized in a novel way to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives” (Turner, 1999).

By studying the available project management handbooks (Turner, 2008; Meredith and Mantel, 2010), it is possible to distinguish four common characteristics of a project:

- It is unique,
- it has finite budget and schedule constraints,
- the activities are complex and interrelated,
- and the objectives are clearly defined (Cova and Salle, 2005).

A project life cycle describes the phases in a project from the beginning to the end. The construction project life cycle (Figure 5) is described by Morris in four different phases: Feasibility, Planning and Design, Construction, and Turnover and Startup (Morris, 1988).

The first two phases (Feasibility and Planning & Design) are often treated in literature as one phase; the front-end development phase (FED). The ‘why’, ‘when’, ‘how’, ‘where’ and ‘who’ questions about a project are answered during the FED phase (IPA, 2009). The aim of the FED phase is to develop sufficient strategic information. The information should enable the owners to address risk and allocate resources. In the end, a proper FED phase should maximize the change to reach success (Gibson Jr et al., 2006). The importance of this process is likewise stressed by Morris:
“The front-end is both an area of opportunity to improve project performance, and one of danger if rushed or otherwise managed poorly.” (Morris et al., 2006)

The effect is visualized in Figure 5, which provides the s-curve of percentage of completion. In the FED phase the level of completion is marginal and therefore it is still possible to influence the overall project, whereas the costs for making those changes would be low. During the construction phase, the progress of the project will increase rapidly until the project is nearly completed. Consequently, the influence on the project will decrease and making changes will have significant impact on the costs and time promises.

![Figure 5 - Representative construction project life-cycle, per Morris (1988)](image)

2.3 Project marketing

Project marketing defines a ‘project’ differently than project management. The co-founder and leader of The European Network on Project Marketing and System Selling (INPM) defined a ‘project’ as:

“A complex transaction covering a package of products, services and work, specifically designed to create capital assets that produce benefits for a buyer over an extended period of time.” (Cova et al., 2002)

In the field of project marketing, Mandjak and Verez have captured the characteristics of a project in the DUC model:

- **Discontinuity** (insecurity in between projects, overcapacity)
- **Uniqueness**,
- and **Complexity** (Mandják and Veres, 1998).
A project marketing cycle describes the phases of a project from the seller’s point of view. Holstius has divided the cycle in six separate phases: search, preparation, bidding, negotiation, implementation, transition. This model is pictured in Figure 6.

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*Figure 6 - The project marketing cycle, per Holstius (1987)*

The first four phases can be described as the sales funnel. During this period, the sales manager tries to narrow down a field of unqualified opportunities to qualified opportunities, and then to closed customers. In other words, the funnel moves from sale leads, to suspects, to prospects, to closed sales. The next step is the implementation of the project in the fifth phase. The sales manager supervises the achievement of the predefined goals and tries to maintain the relationship with the client. In the final transition phase, the project is evaluated and the lessons learned during the project are formulated to be helpful for future projects. The cycle is closed by exploring the possibility of ‘follow up projects’ (Holstius, 1987).

### 2.4 The interaction between project marketing and project management research

As stressed before, the core activities in project-based business are ‘selling the project’ and ‘realizing the project’. A proper integration of those activities in the FED phase is highly significant for the company’s performance. One could therefore expect an intensive dialogue between the field of project marketing and project management. However, the status quo in both disciplines is different.

**Presence of project marketing in the project management field**

Literature on project management tends to ignore project marketing practices in general, or to identify this field as insignificant (Cova and Salle, 2005). One could well hold this view since many projects are executed within firms, and do not need to be sold. However, this is not the case in project-based companies.

The marginal interest in marketing also appears when examining the available project management handbooks. Those books cover topics as ‘strategic project selection’ and ‘stakeholder management’ but rarely discuss the interference of marketing during the FED phase. It is often too easily assumed that the project manager either takes the lead or at least plays a significant role in starting up the project and formulating the contract. Moreover, the circumstances in which a sales manager fully prepares the project are neglected (Turner, 2008; Meredith and Mantel, 2010).

Marketing is covered as topic in the APM BoK (chapter 5.2) and ICB project management standards (Crawford, 2004). However, those two standards consider marketing as a staff department. They do not take into account that the sales department might prepare the project and transfer the job to project management after the contract is signed. The other two big PM standards, PMBOK Guide and P2M, rarely discuss the presence of marketing (Crawford, 2004).
The lack of marketing in project management has also been discovered by Crawford, Pollack and England. They have analyzed the trends in PM literature by using a keyword analysis methodology. Over the period 1994 – 2003, the research reviews the two main PM journals (Project Management Journal and International Journal of Project Management). Within the top 200, the analysis did not reveal any keywords to indicate attention paid to marketing (Crawford et al., 2005).

Nevertheless, there actually are substantial developments in the field of project management and scientists are taking a widened approach. Anbari, Bredillet and Turner have reviewed those developments and grouped the trends in nine major “schools of thought”. The “marketing school” is one of them and concerns the key idea: to communicate with all stakeholders to obtain their support (Anbari et al., 2008). Here we see that the goals in project management are shifting towards a stakeholder perspective and thereby tend to consider marketing issues. Earlier, Pinto stated this change as:

“Having a customer focus means shifting from a goal of maximizing our profits in one project by optimizing the utilization of our resources to a goal of superior service to the customer to maximize the value of the customer’s project by meeting the jointly agreed project goals” (Pinto and Rouhiainen, 2001).

Cova and Holstius recognize the changes to a widened approach in project management, but they claim that this development takes place without any interaction or cross-referencing with the evolving trend in project marketing (Cova and Holstius, 1993).

These PM research developments regarding marketing have been observed from a broader business and management perspective. In 2009, Kwak and Anbari analyzed project management research outside the specific PM journals. They investigated how project management research is represented in eighteen top management and business journal publications published from the 1950s to the summer of 2007. For the purpose of their research, they proposed eight disciplines that are allied with project management. One of the allied disciplines is stated as: “Strategy / Integration / Portfolio Management / Value of PM / Marketing (STRATEGY/PPM), refers to the concepts of organizing and managing resources to maximize profit, minimize cost, and support the overall strategy of the organization”. After coding 537 papers, they found that this allied discipline occurs in 30% of all investigated publication on PM research (Kwak and Anbari, 2009). Unfortunately, the marketing topic is combined with four other topics, which makes it risky to compare it to Crawford’s analysis. Still it roughly outlines the adoption of marketing in project management research. By considering both trend analyses, it seems that project management research only examines marketing in broader management journals and that marketing is rarely discussed in specific PM journals. One could argue, however, that the PM journals are established to be more specific. On the other hand, selling the project is one of the core activities in project-base companies and therefore marketing will play such an important role during that it will be recommended to engage in dialogue with marketing researchers.

<table>
<thead>
<tr>
<th>Project management standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM BoK: Association of Project Management Body of Knowledge (UK; Dixon, 2000)</td>
</tr>
<tr>
<td>ICB: IPMA Competence Baseline (International Project Management Association, Caupin et al., 1999)</td>
</tr>
<tr>
<td>P2M: A Guidebook of Project and Program Management for Enterprise Innovation (Engineering Advancement Association of Japan Project Management Development Committee; ENAA, 2002)</td>
</tr>
</tbody>
</table>
**Presence of project management in the project marketing field**

By considering the trends from a project marketing perspective, the same problem appears. Having assessed the scientific contribution of INPM, Skaates and Tikkanen claim that: “there has been relatively little dialogue between project management and project marketing researches” (Skaates and Tikkanen, 2003). Cova et al. stated likewise that scientists in project marketing hardly consider project management concepts and methods (Cova et al., 2002). However, the INPM has recently initiated a dialogue with project management researchers. They have reviewed how project marketing can possibly contribute to project management. Nonetheless, they consider project marketing as the broad term; “it always implicitly includes project management but not (necessarily) vice versa” (Skaates and Tikkanen, 2003). This promising dialogue seems to be more of a monologue, as the researchers only consider their contribution to project management and present their field as superior.

**Argument summary of missing dialogue**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In general, PM literature tends to ignore marketing.</td>
<td></td>
</tr>
<tr>
<td>2. Some PM handbooks and PM standards discuss marketing issues, but do not consider that a sales manager might fully prepare the project in project-based companies.</td>
<td></td>
</tr>
<tr>
<td>3. Specific PM Journals rarely discuss marketing.</td>
<td></td>
</tr>
<tr>
<td>4. Presence of marketing in PM research seems to be higher in broader management and business journals.</td>
<td></td>
</tr>
<tr>
<td>5. PM research is developing towards a stakeholder perspective and thereby tends to consider marketing issues, but those developments take place without any interaction or cross-referencing with the evolving trend of project marketing.</td>
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<tr>
<td>6. Literature on marketing hardly considers project management concepts and methods.</td>
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<tr>
<td>7. Some marketing researchers have started to interact with PM researchers, but this remains to be more of a monologue.</td>
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</tbody>
</table>

**Bridging the gap**

Some scientists have tried to bridge the gap between the two disciplines. Cova and Salle suggested six points to merge project marketing into project management (Cova and Salle, 2005). Table 1 summarizes the comparison they made. In one way or the other, the convergence and divergence in this table should reflect the collaboration between a sales manager and a project manager in practice.

<table>
<thead>
<tr>
<th>Key Points</th>
<th>Project management</th>
<th>Project marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is a project?</td>
<td>Temporary organization</td>
<td>Transaction</td>
</tr>
<tr>
<td>What are the characteristics of projects?</td>
<td>Specific time frame and objectives</td>
<td>Discontinuity between one project and another</td>
</tr>
<tr>
<td>What is the project cycle?</td>
<td>Begins with request for proposal</td>
<td>Begins outside any project opportunity</td>
</tr>
<tr>
<td>What is the focus of the approach</td>
<td>Resources are dedicated to enhance the relationship inside one project</td>
<td>Resources are dedicated to maintain the relationship between two projects</td>
</tr>
<tr>
<td>Who are the stakeholders?</td>
<td>Internal and external actors that can have a positive or detrimental effect on the project’s development</td>
<td>Relationship between business and non-business actors in the milieu embedding the project</td>
</tr>
<tr>
<td>What is the project origin?</td>
<td>Mostly given</td>
<td>Given or jointly constructed</td>
</tr>
</tbody>
</table>

Table 1 - A comparison between project management and project marketing, per Cova and Salle
2.5 Knowledge of the transition from sales to project management

The missing scientific dialogue seems to have its impact on more applied science as well. As stated before, the project management handbooks neglect the circumstances in which a sales manager fully prepares the project and transfers the job to project management after the contract is signed. This shows that little is known about the integration and the transition that take place in these circumstances.

Some authors have stressed the importance of the integration between sales and project management. However, the contribution of their work in science seems to be marginal. Zachau has stressed the need of integration in the International Journal of Project Management:

“In those companies in which the marketing department is organizationally separated from the design and production departments, the signed contract is handed over to project department for execution. The project manager is then faced with a fait accompli and has no possibility of applying his experience from previous contracts to alter contract provisions and formulation. Therefore, the project manager should be involved as early as possible, preferably before an offer is tendered. Many so-called projects are not true projects; the project manager has no real authority and acts only as coordinator and information source. It is impossible to go halfway when attempting to introduce the project management technique in a company” (Zachau, 1984) [Not cited within other articles].

The necessity of integration is likewise subject of debate from a marketing perspective. The article of Cooper and Budd, published in the Industrial Marketing Management Journal, describes this necessity as follows:

“To manage the sales process such that the company has all the work it needs but avoids contracting for more work than it can deliver satisfactorily, the sales and project operations functions must be carefully integrated. That is, the sales functions must present finalized project contracts to the organization in sufficient quantity to avoid starving project resources for work and at the same time avoid overloading those same resources such that schedules are disrupted and current project success becomes problematic” (Cooper and Budd, 2006) [3 times cited within other articles].

In favor of this research, one author has actually provided a detailed description of the transition from sales to project management. He has taken into account that in many cases the project manager becomes a part of the project execution process well after project inception. In 1992, a specific description of the project hand-over was provided by Hamburger. He wrote an article in the International Journal of Project Management. His article was not based on scientific evidence but on his extensive experience (Hamburger, 1992).

Hamburger gives a detailed description of the transition of a contracted project formulated by sales or marketing. In discussing this context, he assumes that the project manager becomes a part of the project execution process well after the contract is signed. He describes the transition as the ‘internal kick-off process’ were the aim is to get “the project started off on the right foot, heading in the right direction, as quickly as possible”. The main objective in the internal kick-off process is to ensure an effective hand-over from sales to the assigned project manager and thereby to establish the project manager’s responsibility. An effective handover will be achieved by:
- Providing the project manager with a detailed understanding of the contract documents and project specifications. (The project manager is in a distinct disadvantage in if the client has a better understanding of the project-defining documents than him.)
- Providing the project manager complete access to the pre-sales or pre-project files with a comprehensive debriefing, which includes: pre-sales correspondence, reports, memos and notes of verbal commitments.
- Informing the project manager to the greatest extent possible about the client’s perception and expectations, which include:
  - Client’s expectations upon project completion
  - The content of any proposal requests or competitor’s bids (could influence the client’s future perception and expectations.)
  - The personality of the client and the client’s key players (Hamburger, 1992).

The article Hamburg wrote is mostly oriented towards the interest of this research. His findings are unfortunately not further explored by science [not cited within other articles]. The article nonetheless provides a practicable set of objectives and activities to ensure an effective transition from sales to project management. However, it only considers the scenario in which a project manager is introduced after the contract is signed. As the research objective indicates, the actual interest of this research is the development of a more integrated approach that is contingent to the context. In other words, the article of Hamburg does not explain a transition that the project manager is involved before the contract is signed, and in which he or she interacts with sales. Moreover, Hamburger does not indicate how a transition would differ in another context.

### 2.6 Exploring the proposed core concepts

The lacking scientific dialogue between project marketing and project management has led to marginal knowledge specifically aimed on the transition. To create a starting point for this research, the transition is further explored by examining wider concepts in science. When one considers all the questions posed in the problem statement (section 1.2), three central questions arise: how is the transition coordinated? How can you measure the success of the transition? How does the context influence the transition process? To gain background knowledge in response to those questions, the following wider concepts are used: coordination, success, and context. The general scientific understanding of those concepts will be explored below.

#### 2.6.1 Coordination

In general, coordination is about sharing understanding of how we manage and perform the work cooperatively. Clark and Brennan have defined this as building a common ground. They distinguish between two types of coordination: content and process (Clark and Brennan, 1991). Coordination of content is aimed to create a common ground for the subject, focus, attitude, and trust. Coordination of process is aimed to create a common ground for authorization, responsibility, timing, procedures, and deliverables. In investigating the transition from sales to project management, coordination of content should be seen as the ‘transition objectives’ and corresponds to the question: what should be managed in the transition? The coordination of process should be seen as the ‘transition method’ and corresponds to the question: how should we manage the transition?
In literature, team integration and communication are often closely connected to coordination. Firstly, team integration is seen as an important requirement to coordinating project activities efficiently. The work of Pinto et al. demonstrates that project success and the performance of the organization in general are significantly affected by cross-functional team cooperation (Pinto et al., 1993). More recently, Baiden and Price claimed that integration has significant impact on teamwork effectiveness (Baiden and Price, 2011). The amount of integration actually required at an interface depends on two factors: the size of differentiation and the interdependency of the interfaces (Morris, 1988). From a social science point of view, integration is commonly referred to the term ‘social capital’, which describes the relationship and mutual trust between actors. Social capital is defined as an asset to assess resources (knowledge and others) embedded in their social relations. Maurer et al. discuss how in the engineering industry, social capital stimulates knowledge transfer and with this innovation, performance and growth (Maurer et al., 2011).

Secondly, communication theories describe the way how we share understanding and are likewise closely connected to coordination (Berlo, 1960). The transfer of a meaning from one person to another can go through formal or informal channels. Formal channels are imposed by the company and traditionally follow the authority chain within the organization. In contrast, the informal channels are spontaneous and often used to create an ad hoc solution to a problem (Langan-Fox, 2002). Feedback is an important dimension of the communication process. “Feedback is the check on how successful we have been in transferring our messages as originally intended. It determines whether understanding has been achieved” (Robbins and Judge, 2010).

2.6.2 Success

Literature in project management provides a general understanding of ‘success’. The project management handbook, written by Meredith and Mantel, take success to be the major element in evaluating a project (Meredith and Mantel, 2010). Shenhar et al. have defined project success across four dimensions: project efficiency, impact on the customer, the business impact on the organization, and opening new opportunities for the future (Shenhar et al., 1997). The first dimension focuses on the criterion that the promises in terms of scope, time, costs and quality are met. The remaining dimensions describe if a project attains a high level of satisfaction from the project team, general management, and the client (Baker et al., 1988).

2.6.3 Context

Context is seen as an important issue in project management research. The earlier mentioned ‘schools of thought’ have positioned the topic of context in the ‘contingency school’. This school of thought “stresses that every project is different, and so the management approach and leadership style need to be adapted to the needs” (Anbari et al., 2008). Research in this field has provided several contingency factors to describe the context of a project. One of the main contingency factors is defined as project complexity, which includes technical complexity and social complexity.

Technical complexity focuses on the magnitude and connectedness of sub-systems, units, and parts. The level of technical complexity in a construction will increase if the number of interfaces between the parts increases. Apart from this, parts in a construction are not only connected internally but also to its environment. A manager should deal with these internal and external interfaces to take care of important technical interdependencies (Klir 1985; Gigch, 1991).
Linked to technical complexity is social complexity. Social complexity involves the interaction between people, which is complex if the actors are highly specialist or act strategically. This interaction can be explained by focusing on the social interfaces that are often coupled to the technical interfaces. Again, the complexity around this interface will not only exist internally but also externally (Cleland and King, 1983; Morris, 1988).

The complexity factors are further operationalized in a TOE framework by Bosch-Rekveldt. The framework is applicable in this research because it grasps project complexity. This provides the necessary insight to allocate certain value improving practices in the FED phase (Bosch-Rekveldt et al., 2011). The framework divides complexity in technical (T), organizational (O), and environmental (E) complexity (Figure 7).

![TOE framework](image-url)
Project-based business is characterized by a unique unit of production combined with high complexity. The core activities in this business are ‘selling the project’ and ‘realizing the project’. To organize those activities in an effective way, a matrix structure is commonly adopted as the most applicable organizational form. The sales manager and project manager interact in this structure to transfer the project from the sales phase to the project management phase.

The research objective, which focuses on transition from sales to project management, cannot be achieved by simply examining the current scientific literature. The scientific fields in question are project marketing and project management. Although a recent trend has developed towards the integration of the two scientific fields, and generally its importance has been acknowledged, both disciplines are still insufficiently connected. This disconnection contributes to the misconception that the project manager not always participates in formulating the project. Moreover, literature on marketing hardly considers project management concepts and methods. As a result, the lack of scientific dialogue between project marketing and project management has limited our specific knowledge of the transition.

Hamburger (1992) provided a detailed description of the transition from sales to project management, taking into account that in many cases the project manager becomes a part of the project execution process well after project inception. In his description, the project responsibility is handed over from sales to the project manager by providing all project documentation and informing the project manager to the greatest possible extent. However, his findings are based on experience, and were never further explored by scientists, and do not entirely cover the research objective.

In order to gain more background knowledge on the transition, this literature review has examined wider concepts in science. The following wider concepts have been examined: coordination, success, and context. In the next chapter, those wider concepts will be used to construct a priori construct and to create a starting point for the case study.
3  Research methodology: Case study

Chapter 2 has revealed a lack of knowledge in scientific literature concerning the transition from sales to project management. Consequently, three wider concepts of this transition – coordination, success, and context – are proposed to describe the process at an abstract level. What happens exactly during the transition phase, which contextual properties have influence on the process, and how the success can be determined afterwards, is unknown at this stage. In other words, the concepts employed by science and the relations between them lack applicability in the field. The main research question in this research reads:

How can the transition from sales to project management be improved?

In order to answer this research question further research is need. This research proceeds by investigating the transition from sales to PM in an explorative way. The explorative research is performed according to a case study methodology and is mainly based on qualitative data.

Case study research is a proper way to assess how and why decisions are taken in a real-life context in which the researcher has little control over the event (Yin, 2008). The goal of the case study is to move from an abstract priori construct, where core concepts indicate relatively wide and open phenomena, to a detailed conceptual model. The case study is characterized by a relatively small number of research units and focuses on depth rather than breadth. Moreover, a strategic sample is taken, and research is proceed with holistic approach rather than a reductionist one (Verschuren and Doorewaard, 2010).

The research is mainly based on qualitative data because there is a desire to discover the unknown and see the world from the perspective of the participants. The qualitative data will provide flexibility and freedom to explore the transition from sales to project management in depth. Finally, collecting qualitative data is a proper way to discover the pattern rather than to test concept dimensions (Corbin and Strauss, 2008).

This chapter discusses the chosen research methodology. In section 3.1 the core concepts – coordination, success, and context – will be framed in a priori construct. Section 3.2 formulates the specific case questions that are prompted by the priori construct. Subsequently, the multiple-case embedded design will be explained in section 3.3, followed by the case selection process in section 3.4. Finally, the case study protocol will be described in section 3.5, research material in section 3.6, and validity in section 3.7.

3.1  A priori construct

The case study is based on a proposed priori construct deduced from the preceding literature review (Figure 8). A priori construct generally pre-specifies an idea about which core concepts are expected to be significant in a research. This construct can help to shape the initial design of a theory-building research and does not describe any specific relations up-front (Eisenhardt, 1989). As mentioned before, this research wants to discover the transition from sales to project management. In this transition, an unknown task has to be performed. A task can be conceptualized as an act that leads to a certain result, or an input and an output, or action and reaction. In this research, the action is phrased as coordination and the reaction as success.
The research is interested in the coordination during the transition phase from sales to project management. Therefore, the ‘coordination of the transition from sales to project management’ will be the first core concept and contains the independent dimensions.

The way you coordinate a project will influence project success or failure. It would not be useful to measure the final project success to assess the transition phase because there are too many influential factors during the project execution. The measure point will be earlier in the project life cycle and therefore the second core concept is determined as ‘transition success’ and contains the dependent dimensions. The research will highlight the relation to final project success, although this is not the main goal of this inquiry.

An explanation of the transition will be incomplete without considering the context of a certain project. The research suggests that in order for a successful transition to occur, the transition approach should be adapted depending on the context in two ways:

- The influence of context on the choice of coordination (determine effect)
- The influence of context on the relation between coordination and transition success as to strength (moderating effect)

To investigate those three possible ways, the third core concept is defined as ‘context’ and represents the moderating dimensions and determining dimensions.

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**3.2 Cross-case study questions**

As stated before, the goal of the case study is to move from an abstract priori construct to a detailed conceptual model. In the former, core concepts indicate relatively wide and open phenomena, while in the latter, dimensions form the foundation to make relations measurable. Figure 8 shows the expected general relation between the three core concepts. Next, it highlights the relation to project success. Finally, the numbers represent the seven cross-case research questions. The following questions are posed to explore the core concepts and specify the dimensions in each case:

1. Which dimensions describe the coordination of the transition?
   1.1. What are the transition objectives?
   1.2. Which dimensions describe the transition method?
2. Which dimensions determine transition success?
3. Which context dimensions influence the transition?
In addition, the relations between the core concepts will be explored by the following questions:

4. How does context influence the choice of coordination?
5. How does coordination contribute to transition success?
6. How does context influence the strength of the relation between coordination and transition success?
7. How does transition success contribute to project success?

3.3 Case study design

In order to explore the core concepts and their relations, the research is carried out by a multiple-case embedded design. A multiple-case approach is chosen to discover similarities and contrasts across different projects, and in doing so develop empirical knowledge. In general, the evidence from multiple cases will be more compelling, and the overall study is considered as being more substantial (Herriott and Firestone, 1983). The unit of analysis covers a section of a project: the transition between the sales phase and project execution phase. The chosen embedded units of analysis are the core concepts: coordination, success, and context.

Huisman did not have a common practice in executing the transition from sales to project management. Therefore, the current project practice varied over the involved sales- and project managers, and formed unique pairs. Moreover, there was a variety in complexity across the three different project groups. Those two elements created the opportunity to implement a multiple-case study in Huisman. Each case consisted of two semi-structured interviews with the sales manager and project manager. To formulate a robust case report, the interviews were combined with observations from conversations with team members and project data.

The visualization of the case study design is shown in Figure 9. It shows that there is an overall context and a project context within Huisman. The difference in the unit of observation is pictured with boxes SM (sales manager), PM (project manager), and TM (team member).

3.4 Case selection

Six projects are selected to create multiplicity but ensure the richness of the data. Strategic samples are chosen to allow for an analysis of contrasting cases, a method which has a high chance of yielding valuable data. The following criteria are used for the case selection:

1. The project should apply a manner of coordination (exclude absolute freedom).
2. The manner of coordination should vary over the selected projects.
3. Across the selected projects, there should be differences in both project success and transition success.
4. The context of the selected projects should vary (complexity, innovation and project size).
5. The transition should have occurred in the last 1 ½ year to prevent vague memories from blurring the results.
6. Sufficient project data should be available for research.
7. The sales and project managers should have at least two years of experience in their discipline.

8. Both managers should be available to participate in the interviews.

The final selection is made during the internal kick-off meeting at Huisman. The meeting was attended by the Chief Operating Officer, three Sales Managers, and one Project Manager. The criteria above are formulated by the researcher and the selection is made by all parties at the end of the meeting. With this method, the managers were guided to select valuable cases and the experience of the managers was used to consider risks and opportunities.

Six projects in Huisman are selected, including two drilling towers, two pipelay systems and two cranes. After the meeting, a pre-scan is performed to verify the criteria and summarize the selected cases (description of pre-scan in section 3.5). All projects met the criteria except from case A, where the transition has occurred 3 years ago. However, case A is selected because it has a scope similar to Case B and is therefore suitable to explore the transition when a ‘copy project’ occurs. The web diagram in Figure 10 shows the differences across the project and project groups. It reveals that the project size, time span, level of innovation and complexity are significant for drilling towers, significant to averagely significant for pipelay systems, and moderately significant for cranes.

Eleven semi-structured interviews were held with eight different participants. All projects were performed by different project managers, except for the building of the drilling towers. The project manager who coordinated the realization of both drilling towers was interviewed only once because he left Huisman during the research. Through this occurrence, case A was extensively questioned in this interview and case B was only discussed to make comparisons. The three sales managers were each responsible for their own project group. Therefore, the sales managers were interviewed twice. Those interviews were held separately in order to focus on one project and prevent disorder.
3.5 Case study protocol and analysis set up

This paragraph explains the applied case study protocol and analyzing techniques. A case study protocol was formulated to ensure the validity of the research. This protocol contains the procedures and general rules, which were followed during the study. The steps are pictured in Figure 11. The starting point of the study is the selection of six cases as described in the previous section. In the end, the goal is to formulate six individual case reports, perform a cross case analysis, and discuss the findings in order to answer the main research question.

To utilize the interview time efficiently, the research started by conducting a pre-scan over the six cases. The goal of this pre-scan was to discover characteristic context dimensions and find conflicts between the managers. Moreover, it created the possibility to become familiar with the projects and used terminology. Two different instruments were used: examining project data and sending out questionnaires. The project data was studied to discover characteristic context dimensions as scope, project size and type of contract. At the same time, a questionnaire is sent to examine the same context dimensions but now through the eyes of the managers. Besides, characteristic context dimensions, which do not emerge from project data, could be investigated (e.g. uncertainty, dependencies and trust). The questionnaire existed of 54 propositions, divided over the following categories: project in general, sales, project management, and handover. The participants had to state if they agree with the proposition by ranking the question with a scale from 1 to 5 (strongly disagree – disagree – neutral – agree – strongly agree).

The next step was to summarize the findings by determining the characteristic context dimensions and conflicts between the managers. In this process, the TOE framework from Bosch-Rekveldt is used to indicate the technical, organizational, and external complexity. The analysis resulted in six lists of context dimensions that were most characteristic for each case. Next, the conflicts between the sales manager and project manager were analyzed by comparing the questionnaires. This resulted in six separate lists of encountered conflicts.

Semi-structured interviews were then conducted by using an interview protocol and the formulated lists above. The interview protocol existed of 58 predefined questions, divided over the following 6 categories: start, handover result, context, coordination goal, coordination method, and closure.
**Case study protocol**

1. **6 selected case**
   - Send out questionnaires
   - Examine project data
     - Determine characterizing context dimensions and conflicts between participants

2. **Perform interviews**
   - Interview semi-structured questions
   - Verify context dimensions and question the located conflicts

3. **Analyze interviews**
   - Write individual case reports
   - Send out case reports for review
   - Update case reports

4. **6 case reports (Chapter 4)**

5. **Cross case analysis (Chapter 5)**
   - Analyze dimensions by coding/labeling
   - Analyze relationships by pattern matching

6. **Operational conceptual model**

*Figure 11 - Case study protocol*
Each category started with an open question to discover missing concepts. Underneath every open question, several sub-questions were asked. Those sub-questions were ticked off when the participant happened to already have answered them while answering the open questions. Consequently, the unchecked sub-questions were asked when the participant did not answer it or stuck to one issue. In this way, the conversation was more natural and the personal emphasis of the interviewee was made explicit. The conflict lists were used to stress a sub-question concerning the identified conflict. Halfway through the interview, the characteristic context dimensions were verified by going through the characterizing context dimension list.

<table>
<thead>
<tr>
<th>Example of open versus sub-questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Open question</strong></td>
</tr>
<tr>
<td>Which objectives had to be accomplished after the handover phase?</td>
</tr>
</tbody>
</table>

The next step was to formulate six concise case reports. First, nine hours of audio taped interviews were written down in 110 pages of transcript. To discover relevant tendencies in the gathered data, the transcripts were analyzed by counting the explored dimensions and similar words used by the participants. The transcripts were then color marked to indicate the concepts and arrows are drawn to reveal relations. Finally, notes were made for further exploration. By using the analyzed transcripts and examined project data, six individual case reports were written. The results were described according to the following pattern:

<table>
<thead>
<tr>
<th>Pattern of case study report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project context described by:</td>
</tr>
<tr>
<td>• Market background and influential history</td>
</tr>
<tr>
<td>• Objective of client and internal objective of Huisman</td>
</tr>
<tr>
<td>• Introduction of project team, organizational structure and the relationships</td>
</tr>
<tr>
<td>• Complexity divided by technical, organizational and environmental complexities</td>
</tr>
<tr>
<td>2. Expected or actual project success divided by:</td>
</tr>
<tr>
<td>• Meeting the promises</td>
</tr>
<tr>
<td>• Attaining a higher level of satisfaction</td>
</tr>
<tr>
<td>3. Transition success accessed by:</td>
</tr>
<tr>
<td>• Communication process</td>
</tr>
<tr>
<td>• Handover documentation</td>
</tr>
<tr>
<td>• Level of satisfaction</td>
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<td></td>
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<td></td>
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</table>

Later on, the pattern facilitated in making comparisons in the cross-case analysis. Furthermore, all case reports included four tables that state the complexity, project success, transition success and choice in coordination.

To validate the case description, the six case reports were reviewed by all participants. Four questions were asked by reviewing the reports: 1) Is the description of the case correct and
complete? 2) Are the quotations used in the correct context? 3) Does the description place emphasis on the right issues? 4) Are there missing issues or issues which did not arise during the interview? In the end, all comments were updated in the case reports and if necessary discussed with the manager involved.

After updating the case reports, a cross case analysis was performed by following two different techniques: Coding (Corbin and Strauss, 2008) and Pattern Matching (Trochim, 1989). The first technique, Coding, is used to operationalize the core concepts: coordination, success, and context (case study questions 1-3). The operationalization is accomplished by discover the dimensions which give specificity to the core concepts. The dimensions are found by merging and organizing the case descriptions in several lists. The second technique, Pattern Matching, is used to explore the relations between the core concepts (case study questions 4-7). With this technique, relations related to the conceptual model (e.g. early project management involvement is likely to contribute to overall transition success) are compared with observed relations in the cases. In this way, the research tries to clarify the causal mechanisms and to remain open to discover intervening concepts, mediating concepts, and/or deeper causes.

Finally, the case study will result in a detailed conceptual model where dimensions specify the core concept and where relations are visualized. The detailed conceptual model will be used as starting point in the final chapters.

3.6 Research material

The research material encompasses literature, interviews, observations and project data. The application and purpose of each data type will be discussed below:

Literature
Literature was used to reveal the existing knowledge about the concepts in the priori construct. Besides, the literature has contributed to structure the research by applying existing scientific models and research approaches. Finally, the literature was used to evaluate the contribution made by the research to existing scientific knowledge.

Interviews
The research material mainly exists of interview transcripts of the semi-structured interviews. The application is discussed in the previous section. The interview protocol is attached as appendix I: Interview protocol handover from Sales to PM.

Observations
Next to the official interviews, the researcher collected observations along the way. Those observations were mainly gathered from meetings during current transitions, kick-off meetings, and daily informal conversations. During the define- and design phase, those observations were used to formulate the data collection protocol and operationalize the concepts. The observations were also used to understand the overall context in Huisman and emphasize the important issues in a proper way during the cross-case analysis. To observe the context intensively, the researcher was located in Huisman for 8 months. His desk was not positioned in the sales- or project management department, which could lead to a biased view. However, the researcher was located at the office of four project controllers, four estimators, and two planners. The location was helpful because sales managers and
project managers passed by frequently to get information or negotiate about agreements. Those conversations were often in line with the performed research and led to useful notes. Moreover, information concerning project performance, budget and planning was close at hand, and therefore did not need to be questioned in an official interview.

**Project data**

Explicit data was gathered from the project database of Huisman. This data consisted of:

- Quotations
- Letter of intent
- Contract
- Sales budget
- Planning
- Technical drawings
- Technical specifications
- Demarcation list
- Budget control documents
- Progress reports

The measurement of the costs and time promises is explained in appendix II. Finally, the project context and collaboration between actors was examined by investigating email communication and other MS Outlook data.
4  Case study results

The case study results are not available in the public version of this master thesis.
5 Cross case analysis

The case reports in the previous chapter contain a detailed description of the transition process in each project. In the previous stage, the separate cases were examined as if they belong to a series of single case studies. The cases are studied independently in order to discover the process and minimize the influence of observations in other cases. The next step is to find similarities and differences between the results in the case reports. As discussed in the case study protocol, a cross case analysis is performed by following two techniques: Coding (Corbin and Strauss, 2008) and Pattern Matching (Trochim, 1989). The first technique, Coding, is used to operationalize the core concepts in a set of practicable dimensions. The second technique, Pattern Matching, is used to examine the relations between the core concepts and dimensions.

This chapter represents the finding of the cross case analysis by discussing the questions (stated in section 3.2) in the following order:

<table>
<thead>
<tr>
<th>Section</th>
<th>Research questions</th>
<th>Technique</th>
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<tbody>
<tr>
<td>5.1</td>
<td>1. Which dimensions describe the coordination of the transition?</td>
<td>Coding</td>
</tr>
<tr>
<td></td>
<td>1.1. What are the transition objectives?</td>
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<tr>
<td></td>
<td>1.2. Which dimensions describe the transition method?</td>
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<tr>
<td></td>
<td>5.2 2. Which dimensions determine transition success?</td>
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<td></td>
<td>5.3 3. Which context dimensions influence the transition?</td>
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<td></td>
<td>5.4 4. How does context influence the choice of coordination?</td>
<td>Pattern Matching</td>
</tr>
<tr>
<td></td>
<td>5.5 5. How does coordination contribute to transition success?</td>
<td></td>
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<tr>
<td></td>
<td>5.6 6. How does context influence the strength of the relation between</td>
<td></td>
</tr>
<tr>
<td></td>
<td>coordination and transition success?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.7 7. How does transition success contribute to project success?</td>
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</tr>
</tbody>
</table>

5.1 Coordination of the transition

As stated in the literature review, the core concept ‘coordination’ is defined over two sub-concepts: content and process (Clark and Brennan, 1991). The sub-concept ‘content’ is defined as ‘transition objective’ and corresponds to the question: what should be managed in the transition? The sub-concept ‘process’ is defined as ‘transition method’ and corresponds to the question: how should we manage the transition? Both concepts are questioned during the interviews. The next two sections will operationalize both concepts by organizing and coding the collected data.

5.1.1 The transition objectives

The transition objectives were explored by posing the following question to the interviewees: which objectives had to be accomplished at the end of the transition phase? All provided objectives are organized and coded in a list, pictured in Figure 12. It should be mentioned that the list was not formulated to exclude objectives in a case, but to explore all objectives that initially arose during the interviews. For example, supplying the project documents might not be mentioned by a project manager, but this does not mean that it was not an objective at all in this case. The analysis will reveal its importance in a case or its importance as was assessed by specific participant.

In the list, each objective is followed by a case letter. A capital letter is used when the objective was provided by a sales manager and lower-case letter is used to indicate the project manager’s contribution. The stated objectives are organized by clustering them in eight groups with a similar theme. The groups are eventually coded by eight different characterizing objectives.
Creating understanding
- Transferring the ideas from sales to the project team as clearly as possible to prevent a discrepancy in their interpretation (A)
- Getting the idea across rather than the numbers (A)
- Facilitating knowledge exchange (a, B, b, c, D)
- Bringing the tacit knowledge from sales to PM (a)
- Explaining the difference between this project and the previous one (B, F)
- Explaining the purpose and background to the project manager (C)
- Collecting all the ins and outs of the project (c)
- Preventing two different interpretations from arising (e)
- Creating understanding about the project interests (F)
- Creating understanding in the project team (E, F)
- Collecting all the knowledge of the project (f)
- Aligning the expectations (E, F)
- The project manager should have sufficient knowledge to be able to represent the sales agreements (E, F)
- Trying to understand the scope meant by sales and sold to the client (d)
  - Explaining the choices made was recognized as an objective but not considered important because there were no difficult choices and the project manager knew the client (E)

Supplying project documents
- Handing over correct documents (A, B, e, f)
- Handing over uniform documents (e)
- Handing over a background report of the sales phase (e)
- Handing over the detailed documents to facilitate project management practices (d)
- Winding up all documents (D)
  - Less priority on winding up all documents because client did not ask for it. (E)

Securing the concept
- Guaranteeing that the copy project stays a copy project (B)
- Reviewing the basic-design (A)
- Trying to remain the design modular and hereby facilitating the offering of quotations for other projects (D)
- Securing the concept design made by sales (C, D)

Starting up project
- Kick-off project across the organization (a, B, b)
- Give the project the right direction (C)
- Start upfront in order to achieve the delivery date (F)
- Not delay the project process (E, F)
- Create a smooth transition from sales phases to project execution phase (F)

Protecting the company
- Protecting the organization against the project (C)
- Formulating a realistic goal for the organization (E)
- Project manager should take care of issues which are not in the interest of sales (c)
- Protecting the Huisman standards (f)
- Guaranteeing the practical workability (f)
- Preventing problems later on (c)
- Indicating the problems to be solved later on (c)

Attaining satisfaction
- Reaching a collective solution (A, B)
- Selling the project to the organization (E)
- Creating sympathy in the project team (E, F)
- Creating a project team that is committed to the project (d, e)
- Satisfying the client (D)
- Bring both worlds together; client and organization (E)
- Correctly introducing of project manager in order to create a good relationship with the client (d)
- Preventing dissimilarities between sales and project management in order to satisfy the client and create trust (e)
- Satisfying the client is an ambiguous goal (the sales manager wants to maximize the outcome in the contract, on the other side he wants to satisfy the client) (C)
- Satisfying the client was not seen as a goal that is especially assigned to the transition (a, F, c)

Improving knowledge for the future
- Learning was not a clear goal (A, a, b, c)
- Added after analyzing the transition success dimensions (see section 5.2)

Reducing complexity
- Added after analyzing the transition success dimensions (see section 5.2)

Remaining objectives:
- Close the sales phase and take over the responsibility (c)
- Proving the new transition-model, which was established beforehand (D)
  - We never spoke about a collective goal (f)

Figure 12 - Coding and organizing the transition objectives
Next, Table 3 is framed to compare the six objectives among the cases and explore the difference between the sales- and project managers. The remaining findings are:

- Most objectives are related to create understanding followed by attain satisfaction, start-up project, and supply project documents.
- In all cases, learning was not seen as a (clear) goal of the transition.
- In some cases, satisfying the client was not seen as a goal especially assigned to the transition.
- ‘Start-up project’ was more important in high complex projects (case A, B, C), ‘supply project documents’ was more important in medium and low complex projects (case D, E, F).
- All sales managers mentioned goals related to ‘attaining satisfaction’. However, this was only observed by a few project managers.
- ‘Protect company’ seems to be more important in cases where the client relationship is threatening.
- The goal ‘secure concept’ is only provided by sales managers.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Sales manager</th>
<th>Project manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create understanding</td>
<td>A, B, C, D, E, F</td>
<td>a, b, c, d, e, f</td>
</tr>
<tr>
<td>Supply project documents</td>
<td>A, B, D</td>
<td>d, e, f</td>
</tr>
<tr>
<td>Start-up project</td>
<td>B, C, E, F</td>
<td>a, b, c</td>
</tr>
<tr>
<td>Secure the concept</td>
<td>A, B, C, D</td>
<td></td>
</tr>
<tr>
<td>Protect company</td>
<td>C, E</td>
<td>c, f</td>
</tr>
<tr>
<td>Attain satisfaction</td>
<td>A, B, C, D, E, F</td>
<td>d, e</td>
</tr>
</tbody>
</table>

Table 3 - Comparing the transition objectives

5.1.2 The transition method

The transition method is explored by posing the following question to the interviewees: How did you proceed with the transition phase? As support, sub-questions were formulated to question the method, regarding rules and procedures, timing, manner of formal interaction and manner of informal interaction. Before the interviews, those aspects were considered potential dimensions that had to be described for each case in order to arrive at a general understanding of the transition method. While the interviews and research were under way, a better understanding of the transition method was developed. In order to enlarge the applicability of the research, the potential aspects were rephrased to form a set of dimensions and their underlying range or terms (Figure 13). The applicability is realized by dividing the dimensions 1-3 across the involved actors: sales manager, project manager and specialists. Dimensions 4-6 describe the way in which the actors collaborate in the transition phase.

The handover is an important aspect in the transition method. The handover is defined as a milestone in the transition were the sales manager gives the responsibility to project manager and transfers the project documentation (Figure 1 at page 4 shows the positioning of the milestones in the transition phase). In most cases, the handover took place during the kick-off meeting, which was shortly after the contract was signed. It is important to notice here that the involvement of project management focuses on the participation before the handover and the involvement of sales management focuses on the participation after the handover. This choice is made because the involvement of project management after the handover will mainly describe his or her ordinary project management activities, and therefore fall out of scope. The same choice, but the opposite reasoning, applies to the activities of the sales manager.
1. Involvement of project management before handover
   - Timing (late / in time / early)
   - Intensity (low / medium / high)

2. Involvement of sales management after handover
   - Timing (early / in time)
   - Intensity (low / medium / high)

3. Involvement of specialists during the transition phase
   - Timing (late / in time / early)
   - Intensity (low / medium / high)

4. Interaction
   - Formality (informal / formal)
   - Dialogue (directed by sales / two-way / directed by project management)

5. Attitude
   - Readiness (unwilling / willing)
   - Mutual opinion of each other (contemptuous / respectful)

6. Focus (selling / project realization)

Figure 13 - Coding and organizing the transition method dimensions

Project management involvement before the handover

Project management involvement is defined by three properties: role, timing and intensity. The role describes the activities of the project manager before the handover, since the activities after the handover will mainly be his or her ordinary project management activities and fall out of scope. ‘Timing’ is defined as the moment when the project manager gets involved in the project. The timing is late when the project manager was involved after the LOI/contract or had less than one week to review the LOI/contract. ‘Intensity’ is the level of involvement before the handover, and captures the spent effort and the frequency of interaction.

It should be mentioned that the properties of timing and intensity are closely related before the handover. The decision on timing can limit or affect the intensity. There will be less time left (effort to spend) if you introduce a project manager too late. Late involvement can also result in a higher frequency of interaction.

Sales management involvement after the handover

Sales management involvement is defined by three properties: role, timing and intensity. The ‘role’ property describes the activities of the sales manager after the handover, because the activities before the handover will mainly be his or her ordinary sales task and fall out of scope. The property ‘timing’ is defined as the moment in time when the sales manager retreats from the project. The timing is assessed as ‘in time’ when the sales manager stays involved until the basic design is completed. When the sales manager retreats before this stage, the timing is described as early. The property ‘intensity’ is the level of involvement in the transition phase, and captures the spent effort and the frequency of interaction.

It should be mentioned that the timing and intensity properties are also closely related to each other after the handover. The decision on timing can limit or affect the intensity. There will be less time left (effort to spend) if the sales manager retreats too soon. An early retreat can also result in a higher frequency of interaction.
Involvement of specialists during the transition phase

Employees of the following departments are considered specialists: Mechanical Engineering, HES (hydraulic, electrical and control systems), Naval Architecture, Legal, Estimation, Planning, and Commissioning & Testing. It would be interesting to investigate their individual contribution, although this analysis considers specialist involvement as a whole. Therefore, the involvement of specialists during the transition is defined by two properties: timing and intensity. The definition of those two properties corresponds with the properties of PM involvement.

Interaction

The dimension of interaction is taken into account to describe the communication process between the sales manager and project manager. Interaction is defined by two properties: formality and dialogue. Formality describes the way in which understanding is shared. The interaction is formal when people follow processes that are imposed by the company. In contrast, the interaction is informal when there is not a clear process and people act spontaneously. The second property is dialogue and considers the direction of communication. There is a two-way dialogue when both managers are communicating on the same level. The dialogue can also be directed by sales. In this case, the sales manager acts/communicates in a directing way. The opposite applies for a dialogue directed by project management.

Attitude

The dimension of attitude considers the manager’s behavior and atmosphere during the transition. The dimension is defined by readiness and mutual opinion of each other. ‘Readiness’ questions if the managers are willing to cooperate during the transition. The mutual opinion of each other can be respectful or contemptuous.

Focus

The dimension of focus considers if the focus during the transition is on sales or project realization.

Table 4 provides an overview of how each transition method dimension is presented in each case.

<table>
<thead>
<tr>
<th>Case</th>
<th>Involvement of project management before handover</th>
<th>Involvement of sales management after handover</th>
<th>Involvement of specialists</th>
<th>Interaction</th>
<th>Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Role</td>
<td>Timing</td>
<td>Intensity</td>
<td>Role</td>
<td>Timing</td>
</tr>
<tr>
<td>A</td>
<td>1,2,4</td>
<td>Early</td>
<td>High</td>
<td>2,3</td>
<td>In time</td>
</tr>
<tr>
<td>B</td>
<td>1,2,4</td>
<td>Early</td>
<td>High</td>
<td>2,3</td>
<td>In time</td>
</tr>
<tr>
<td>C</td>
<td>2,3</td>
<td>Late</td>
<td>Low</td>
<td>2,3</td>
<td>In time</td>
</tr>
<tr>
<td>D</td>
<td>1,2,5</td>
<td>Late</td>
<td>High</td>
<td>1,2,3, 4, 5</td>
<td>In time</td>
</tr>
<tr>
<td>E</td>
<td>1,6</td>
<td>Late</td>
<td>Low</td>
<td>1,2,3</td>
<td>In time</td>
</tr>
<tr>
<td>F</td>
<td>6,7,8</td>
<td>Late</td>
<td>High</td>
<td>2</td>
<td>Early</td>
</tr>
</tbody>
</table>

Table 4 - Transition methods dimensions across cases
5.2 Transition success

The literature review has suggested several dimensions to measure project success. Baker et al. divided project success in meeting the promises and attaining high level of satisfaction (Baker et al., 1988). Alternatively, Shenhar has defined project success over four dimensions: project efficiency, impact on the customer, the business impact on the organization, and opening new opportunities for the future. However, those dimensions seem to be too abstract and inappropriate to operationalize transition success.

Transition success is explored by asking the following question to the interviewees: Did you experience the transition as successful, and how do you evaluate the success or failure? All provided success dimensions are organized and coded in a list, pictured in Figure 14. It should be mentioned that the list is not formulated to exclude success dimensions in a case, but to explore all success dimensions that initially arose during the interviews. For example, ‘project starts on time’ might not be mentioned by a sales manager, but this does not mean that this success dimension was not assessed at all in this case. The analysis will reveal its importance in a case or its importance as was assessed by specific participant.

In the list, each success dimension is followed by a case letter. A capital letter is used when success dimension was provided by a sales manager and lower-case letter is used to indicate the project manager’s contribution. The stated success dimensions are organized by clustering them in groups with a similar theme. Simultaneously, the groups are coded by eight different characterizing success dimensions. The transition objectives in section 5.1.1 are taken into consideration during the coding process to ensure the measurability and thereby create SMART objectives.

Even though learning was not considered a (clear) objective of the transition, most participants have assessed the success in reference to issues related to future potential and lessons learned. Therefore, it will be advisable to retain the objective: improve knowledge for the future.

The dimension ‘shift in complexity’ was not considered before the interviews. It is included because it seems to have interesting applications. For example, the chance of good project performance will be higher if the complexity becomes lower. Moreover, the concept complexity might also enclose other dimensions. For example, one might claim that with low satisfaction and low understanding of the project manager the complexity will rise. Consequently, it might be advisable to reformulate this dimension as a transition objective: reducing complexity.
### Understanding of project manager and project team
- Interpretation difference in general (D, d, E)
- Consulting sales manager after transition (C, D, d, e, f)
- Sales knowledge lost after transition (f)
- Confusion among project team (A, B, C, c)
- Project team has understanding of the project (A, B, D, f)
- Communication error with general management (C, E, F)
  - Consulting sales manager after transition is an inappropriate dimension (A, D)

### Completeness and quality of project documents
- Completeness and quality of technical docs (A, a, B, C, c, D, d, e, e, F, f)
- Completeness and quality of non-technical docs (a, b, c, d, e, F, f)
- Second opinion/input of project manager on documentation (a, B, C, d, e, f)
- Explicit documentation of what is known and what is not (c, d)
- Docs serve the needs of project management (a, c, d, f)
- Practicability of agreements (e)
- Uncertainty in scope (C, c, F)

### Uniformity between concept design and basic design
- Interpretation difference related to concept (A, B, C, d)
- Concept design is correctly implemented (C, C, D, E, e)
- Changes in design compared to copy project (B)
- Changes not formally documented (c)
- Same technique, scope and budget as started with (A, C)
  - Design remains modular (D)
  - The interpretation difference measure is absent when the complexity is low (F)

### Efficiency of transition process
- Project starts on time (A, C, c, F)
- All departments starts on time (d, F)
- Minimum of stagnation (C, D, d, E, e, F)
- Effectiveness of effort (A, a, C, c, D, E, F, f)
- Duration of finishing documents (d, E, F)
- Project team has the right focus on time (D)

### Feasibility within boundaries of the company
- The organization limits guarded (C, e, f)

### Attainment of satisfaction
- Client satisfaction (A, B, C, c, D, d, E, e, F, f)
- Project team satisfaction (A, a, B, C, D, f)
- Experience a fait accompli (E, e, f)
- Commitment towards project (A, B, C, d, E)
- Relationship between managers (A, a, B, C, D, d, E, F, f)
- Manner of introduction (E, f)
- Mutual vision (c, D, d, e)
- Mutual contract support (B, C, D, d)
- Manager is overloaded (B, f)
- Conflict with general management (A)

### Future potential and lessons learned
- Acquired knowledge in favor of next project (A, d, E, F)
- Improvement of standard documents (B, D, d, e, F)
- Enlarged technical knowledge (C)
- Improved knowledge about project and/or client (B)
- Improvement of product line (D, E)
- Future relationship between managers (d, f)
- Transition is an example for other projects (D)

### Shift in complexity
- Decline in complexity (C, D)
- Minimum of difficult problems remaining (C)
- Shift in risk (e)
- Diminished organizational complexity (a)

### Remaining
- Achieve Teambuilding (A)
- Transition process clear to project team (A, C, D)
- Clearness of transition closure (E)
- Too much initiative by project manager (f)

---

Figure 14 - Coding and organizing the success dimensions
The following indicators are used to assess the transition success dimension:

- **Understanding of project manager and project team**
  - Clarification/interaction needed afterwards (frequently – none)
  - Level of confusion (unclear – clear)

- **Completeness and quality of project documents**
  - Sufficiency to start the project realization (insufficient – sufficient)

- **Uniformity between concept design and detailed design expressed in:**
  - Scope: number of engineering changes (number)
  - Time: shift in effort caused by changes (more man hours – less man hours)
  - Costs: shift in margin caused by changes (more costs – less costs)
  - Quality: shift in quality caused by changes (lower quality – higher quality)

- **Efficiency of transition process expressed in:**
  - Time: duration of process (took longer than expected – on time)
  - Costs: expenditure on process (more costly – within budget)

- **Feasibility within the boundaries of the company**
  - Feasibility of agreements (passes the organizational limits – limits guarded)

- **Attainment of satisfaction among sales manager, project manager, and client (including: general experience, confidence, commitment, relationship, and liberty of action)**

- **Future potential / lessons learned** (none progress – significant progress)

- **Shift in complexity** (lower complexity – higher complexity)

Figure 15 describes how the transition success could be measured. Moreover, it reveals the link between the uniformity expressed in scope (Δ design) and the uniformity expressed in costs (Δ margin). This research has only collected qualitative data in interviews and therefore all the success dimensions are only measured by nominal values: low, medium, or high. For further research and practical purposes, Figure 15 will be applicable to test the transition success in a quantitative way.

*Figure 15 – Suggestion to measuring transition success by quantitative data*
5.3 Transition context

The transition context dimensions are explored by listing all context dimensions that are used to describe the relations in section 5.4. By following this strategy, many TOE complexity factors did not seem to be applicable to describe the relations. Moreover, other context dimensions were revealed. All explored transition context dimensions are organized and coded in Figure 16. The stated context dimensions are organized by clustering them in three groups with a similar theme.

Project related context dimensions
- Contract certainty
- Level of innovation (part of technical complexity)
- Organizational complexity
- Client Type
- Time pressure
- Similar project team

Company related context dimensions
- Authority who is responsible to introduce PM
- Manager’s capacities: experience in general, familiarity with client and project, knowledge of each other’s procedures, and experience in participating during each other’s phase
- Personal relationship
- Distance between sales and engineering
- PM is able to fill sales role
- Establishment of standards
- Lack of resource availability

Process related context dimensions
- Progress of basic design phase
- Other resources were used to fill PM role
- Support of GM
- Relieve the sales manager
- Initiative from project team
- Completeness and quality of project documents

By considering Figure 16 we can distinguish 3 different groups: one relating to the project, one relating to the company, and one relating to the process. The project related context dimensions are useful to adapt the transition to a certain project context. These dimensions will differ across projects and are significant for determining the timing and the intensity of involvement during the transition.

The company related context dimensions will determine and influence the transition as well. However, these dimensions are mostly the same across projects. The main application of those dimensions will be on company level rather than the project level. One should consider these dimensions to create a better work environment during the transition.

The last group, which is related to the process, represents the context dimensions which might occur/change during the transition phase. These dimensions should be taken into consideration when making the transition more flexible.
5.4 Relations between coordination, context and transition success

The analysis in previous sections asserted the dimensions to the core concepts coordination, context, and transition success. However, the link between coordination and transition success on the one hand and the influence of the ‘context’ on the other hand, is unknown at this stage. This section will try to provide the answer to the questions: How does context influence the choice of coordination? How does coordination contribute to transition success? How does context influence the strength of the relation between coordination and transition success?

The analysis proceeds by discussing the six transition method dimensions separately. The link to transition success and the influence of context will be analyzed for each dimension. The following subsections will discuss the findings across each dimension according to the following structure:

1. Examining influence of context
2. Examining relation to transition success
3. Establishing revealed relation(s) by pattern matching
4. (Summary of findings)

5.4.1 Involvement of project management before handover

This section represents the findings on the transition method dimension ‘involvement of project management before handover’. Table 5 was made to explore the relationships within this dimension. The table shows the overall complexity, the explored dimension, and the transition success dimensions.

<table>
<thead>
<tr>
<th>Case</th>
<th>Overall complexity</th>
<th>Role</th>
<th>Timing</th>
<th>Intensity</th>
<th>Transition success dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>High</td>
<td>1,2,4</td>
<td>Early</td>
<td>High</td>
<td>M M H L H M M H H</td>
</tr>
<tr>
<td>B</td>
<td>High</td>
<td>1,2,4</td>
<td>In time</td>
<td>High</td>
<td>H H H M H H H -</td>
</tr>
<tr>
<td>C</td>
<td>High</td>
<td>2,3</td>
<td>Late</td>
<td>Low</td>
<td>L L H L L L M M</td>
</tr>
<tr>
<td>D</td>
<td>Medium</td>
<td>1,2,5</td>
<td>Late</td>
<td>High</td>
<td>H H H M H H H H</td>
</tr>
<tr>
<td>E</td>
<td>Low</td>
<td>1,6</td>
<td>Late</td>
<td>Low</td>
<td>L L H L L L L H</td>
</tr>
<tr>
<td>F</td>
<td>Medium</td>
<td>6,7,8</td>
<td>Late</td>
<td>High</td>
<td>L H H L L L H H</td>
</tr>
</tbody>
</table>


Table 5 - Project management involvement: role, timing and intensity

Influence of context

The choices in role, timing, and intensity are hardly the same across projects and mainly depend on the context. In order to create understanding of PM involvement, the most influential context factors are explored. In the interviews, the managers explained why they had made certain choices in role, time, and intensity. These motivations were then analyzed and used to extract the relevant contextual factors. Figure 17 shows all revealed context factors (page 40).
The following list describes the context factors that were found in more detail and provides quotations that illustrate the factor in question:

- **Contract certainty**, “If there is a strong belief in a signed contract, then it is useful to assign a project manager” (Case A)
- **Authority responsible to introduce PM**, “The task of COO is to introduce the project manager on time, but in this case it took too long. If you want to improve this transition, you should introduce him sooner.” (Case E)
- **Complexity factors**, in particular:
  - Client Type, the involvement of project management is considered important when the contract negotiations with the client were difficult. High client complexity applies when: 1) the relationship is skeptical, 2) the client demands a lot of interference in the operations of Huisman, and 3) the client formulates extremely detailed contracts. (Case C and F)
  - Time pressure, “We started with the execution before we had signed the contract. As a result, the project manager invested a lot of effort.” (Case F)
  - Support of GM, the intensity was higher when general management made the project a matter of prestige. (Case D)
  - Lack of resource availability, “The project manager was late because he was not available” (Case C)
- **Project manager capacities**:
  - General experience in project management. Overall, early involvement was indicated to be valuable if the project manager was very skillful in his discipline.
  - Familiarity with client and project. Overall, early involvement was deemed valuable if the project manager was familiar with the client or project type.
  - Knowledge of sales procedures, “It was possible to give the project manager a bigger role because she had experience in sales.” (Case D)
  - Experience in participation during sales phase. “If a project manager has more experience in participation during the sales phase, he/she can empathize with the interest of sales.” (Case B)
- **Personal relationship**: By examining case E and F, it became clear that the personal relationship played a significant role. Although the evidence did not clearly come from the interview, two relations were formulated, based on observations and later verified by three participants:
  - The sales manager might not express the necessity of PM involvement if the personal relationship between the managers is tense. Consequently, the authority responsible for introducing the PM does not receive a sign from the sales manager and the introduction will be delayed.
  - The level of intensity might increase if there is no trust between the managers.
- **Relieve the sales manager**, “With 30 different sales combinations, the project manager had to play a bigger part because the sales department was very occupied. This is not favorable in normal circumstances.” (Case D)
- **Other resources were used to fill PM role**, “We have chosen to move two engineers to the concept department. Next, the project director was intensively involved and acted like a project head representative. However, it would be better to involve a real project manager in the end of the sales phase.” (Case C)
Relation to transition success

As mentioned before, the timing decision is closely related to level of intensity. To find out which success dimensions are influenced by the timing decision, we have to separate the timing from intensity. Therefore, timing should be assessed by taking an extreme case where the project manager was introduced early, but did not participate until the project execution started (he/she didn’t play a role and only says ‘hello’). Unfortunately, none of the cases featured this specific situation. Instead, case C, D, E, and F showed the opposite: late involvement. In these interviews, valuable comments were provided to describe the isolated influence of timing. The following list is provided to give insight in the most significant success dimensions only related to timing:

+ **Client satisfaction:** It will provide confidence to the client when they know who the project manager will be.
+ **Project manager satisfaction:** Through proper timing, the project manager will feel more committed to the project because he/she does not face a fait accompli.
+ **Sales manager satisfaction:** The sales manager will become confident when he/she knows who the project manager is going to be, and that there is one available in the first place.

The success dimensions above demonstrate that the timing decision only influences the attainment of satisfaction. The other success dimensions are not directly related to the timing decision, but start to play a role when we examine the influence of intensity. In other words, you will attain some satisfaction if you introduce the project manager early, but without any intensity the involvement won’t contribute to the content of the project. To examine the influence of intensity, the cases with high intensity are analyzed to find out how intensity contributes to success. Conversely, the cases with low intensity provided valuable data related to failure. The intensity is closely connected to a role; that is why the influence of the performed role is examined at the same time. The following list is provided to give insight in the most significant success dimensions that are positively related to the dimensions of role and intensity:

+ **Understanding of project manager:** high intensity of preparation will increase the project manager’s understanding of project documents, verbal arrangements, client personality, project history, and future expectations.
Completeness and quality of project documents: Before the contract is signed, consulting and reviewing the project documents will increase the completeness and quality, particularly non-technical documents.

Uniformity between concept design and detailed design: Guaranteeing the uniformity is not directly caused by intensive project management involvement. Indirectly, higher understanding of project manager will increase his/her ability to secure the concept design.

Efficiency of transition process: Intensity of preparation will encourage the start-up of the project and minimize stagnation after contract signing.

Attainment of satisfaction, in particular:
- Mutual vision and relationship between managers: “I prefer a project manager who starts a project before the contract is signed. Otherwise it is hard to form a good relationship with a mutual vision.” (Case C)
- Project manager satisfaction: Through proper involvement, the project manager will feel more committed to the project.
- Sales manager satisfaction: The sales manager will be more confident if the documents are reviewed by project management. Besides, there will be more satisfaction because it will relieve the sales manager from activities that are more in the interest of project management (e.g. starting the project beforehand).

Future potential and lessons learned:
- Project manager capacities: Through high frequency of interaction, the project manager becomes familiar with the activities in the sales phase of a project. Moreover, he/she will understand the limitations and dynamics of this phase and knows how to participate in this in the future.
- Sales manager capacities: Through high frequency of interaction, the sales manager becomes familiar with the project execution. He/she discovers the organizational limitations and the eventual realization of the project will closely resemble his initial concept.

Shift in complexity: “If you involve a project manager to formulate a contract together, he can help to stipulate certain organizational issues, which will decrease the organizational complexity” (Case A). Moreover, “the project manager might provide some input. As a result, the project will encounter less risk during the execution.” (Case E)

The following list is provided to give insight in the most significant success dimensions negatively related to the dimension intensity:

- Efficiency of transition process: High involvement might decrease the efficiency if the project manager capacities are insufficient (see previous section, page 39).
- Attainment of satisfaction: High involvement might decrease the satisfaction of the sales manager when the project manager does not consider the interests of sales (Case F). Additionally, a sales manager disfavors a project manager that does not cooperate in a constructive way and provides unspecific criticism (Case B).
Higher level relations

Some negative impacts of early and high intensive involvement were revealed by the investigated cases. However, early and high intensive involvement was overall assessed to be favorable to the transition. In order to combine all causal mechanisms, two higher level relations are phrased. The first property, timing, reveals the following relation:

**Early PM involvement before the handover is likely to contribute to a high level of satisfaction, almost irrespective of the context.**

This relation is supported by case A and B, were the project manager was involved early on. Those two projects both led to a successful transition with a high and medium level of satisfaction. In contrast, in the other four projects, the involvement of project manager was too late. This led to a low satisfaction three times and only once was a high degree of satisfaction obtained. The negative impact was clearly stated in case C, where the client became restless when there was no project manager available. In the same case, it was also claimed that the transition was difficult due to the absence of the project manager. According to both managers in case E, the biggest mistake was to involve the project manager too late. The project manager in case F indicated, “One week before the LOI was clearly too late. It was impossible to advice the sales manager and to review the LOI agreements. To me, the way I was involved was indecent.”

The second property, intensity, reveals the following relation:

**High intensity of PM involvement before the handover is likely to contribute to overall transition success if the level of complexity is high.**

The establishment of this relation can be found in projects of which two are highly complex and one less so, but still more complex than averagely. Those three projects (case A, B, and D), in which the level of intensity was high, all led to a successful transition. An example of this relation is provided by the manager in case A, “It was useful to assign a project manager way before the contract, especially in this complex project.” Conversely, the complex project in Case C with low intensity has led to a poor transition. The less complex project in case E and F did not reveal a clear relation. Nevertheless, all interviewees in case E and F stated that projects with less complexity, like those executed by the crane product group, demand less intensity.

It was expected that low intensity would not affect case E which was little complex. However, the transition was considered a failure. After further investigation, this was not caused by the low level of intensity but mainly by poor documentation. Therefore, intensive PM involvement seems not to be required in project with a low degree of complexity if the documentation is sufficient. When the documentation is poor, involvement is still essential to get the knowledge from sales manager to PM and to establish a successful transition.

In case F, a successful transition after intensive involvement was expected. However, the transition was generally considered a failure because the intensity was too high. In this case, the transition was significantly less efficient and the contribution of the project manager was considered too large. The property of intensity and the success factor ‘efficiency’ are apparently closely related and determine largely the overall success in projects of less complexity.
Summary of findings

Figure 18 summarizes the findings on project management involvement. Firstly, it shows that the context greatly determines the intensity of project management involvement. Its timing is only slightly determined by the context. The timing is likewise determined by the necessary intensity, and it simultaneously limits and affects the intensity.

Secondly, if the project management involvement properly adapts to the context, this will contribute to transition success. The intensity directly contributes to all transition success dimensions and timing only contributes directly to attaining satisfaction. Finally, intensive project management involvement will only have a significant contribution to attaining success if the level of complexity is high. Therefore, the intensity should be carefully adapted to the context in the first place.

To conclude these findings, early timing should be taken as a requirement for each project to guarantee the satisfaction among the client, project manager and sales manager. Consequently, project management involvement should be carefully adapted to the context and complexity. The involvement should be highly intensive in complex projects and less intensive in relatively simple projects.
5.4.2 Involvement of sales management after handover

This section represents the findings on the transition method dimension: involvement of sales management after the handover. Table 6 shows the relationships within this dimension. The table shows the level of innovation, the dimension of sales management involvement, and the transition success dimensions.

![Table 6 - Sales management dissolution: role, timing and intensity]

```
<table>
<thead>
<tr>
<th>Case</th>
<th>Level of Innovation</th>
<th>Role</th>
<th>Timing</th>
<th>Intensity</th>
<th>Overall</th>
<th>Understanding</th>
<th>Tech Docs</th>
<th>Non-Tech Docs</th>
<th>Efficiency</th>
<th>Δ Design</th>
<th>Satisfaction</th>
<th>Δ Complexity</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>High</td>
<td>2,3</td>
<td>In time</td>
<td>Low</td>
<td>M</td>
<td>M</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>B</td>
<td>Low</td>
<td>2,3</td>
<td>In time</td>
<td>Low</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>-</td>
</tr>
<tr>
<td>C</td>
<td>High</td>
<td>2,3</td>
<td>In time</td>
<td>Low</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>D</td>
<td>Medium</td>
<td>1,2,3,4,5</td>
<td>In time</td>
<td>Medium</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>H</td>
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</tr>
<tr>
<td>E</td>
<td>Low</td>
<td>1,2,3</td>
<td>In time</td>
<td>High</td>
<td>L</td>
<td>L</td>
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</tr>
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</tbody>
</table>
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Influence of context

The choices in role, timing, and intensity are hardly the same across projects and depend on the context. In order to create understanding of sales management involvement after the handover, the most influential context factors are explored. In the interviews, the managers explained why they had made certain choices in role, time, and intensity. These motivations were then analyzed and used to extract the relevant contextual factors (Figure 19).

The following list describes the context factors that were found in more detail and provides quotations that illustrate the factor in question:

- **Complexity factors**, in particular:
  - Level of innovation: “After signing the contract, the role of the project manager was less intensive because the project was a copy project.” (Case B)
  - Lack of resource availability: The relevant sales manager should have enough time to perform his role. (Case E)
  - Time pressure: If there is high time pressure, the basic design phase will proceed more quickly. As a result, the process demands more intensity, although the sales manager will retreat from the project earlier. (Case F)
  - Client Type: Playing ‘bad cop’ by sales management occurs more often when the client relationship is skeptical.

- Having the same project team: “After signing the contract, the role of the sales manager was less intensive because the project was a copy project with an unchanged project team.” (Case B)

- Distance between sales and engineering: The level of involvement will be lower if there is a large distance between sales and engineering (Case C).
• **Initiative from project team:** “During the basic-design period, they (the engineers) have not consulted us often.” (Case A) [This makes the question arise: who should take initiative? Or should it be authorized?]

• **PM is able to fill sales role:** “Safeguarding the concept was not a task of the sales manager because the project manager could fill this role in a copy project.” (Case F)

• **Progress of basic design phase:** If there is stagnation in the basic design phase, the involvement will take longer. (Case C)

• **Completeness and quality of project documents:** Poor documentation demands high intensity because understanding of the concept will be lower in the project team.

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**Relation to transition success**

As was proven in the previous section, the decision when to involve project management already contributes to transition success. However, the equivalent decision in sales management did not reveal an isolated relation to transition success. In other words, if the sales manager does not carry out many tasks after the contract, it does not make sense to keep him involved at all. Therefore, timing and intensity of sales management involvement is examined as a whole. The following list is provided to relate the contribution of sales management involvement to transition success:

+ **Understanding of project manager:** If the sales manager keeps consulting and informing the project manager after the contract is signed, the project manager will develop a better understanding. However, providing information too late or excessively is a possible sign that earlier mistakes were made during the transition.

+ **Completeness and quality of project documents:** The involvement of the sales manager will contribute to wrap up the internal documents towards the end of the transition. The internal documents contain details about verbal arrangements, client personality, project history, and future expectations. At this stage of the transition, sales management involvement will not affect the contract documents because those documents will not change after the contract is signed.

+ **Uniformity between concept design and basic design:** Through being involved, the sales manager will have more control on the basic design phase and the difference between

---

*Figure 19 - Factors that influence the timing and intensity of SM involvement*
concept design and basic design will become smaller. Moreover, the sales manager can safeguard the modularity in the concept.

+ **Efficiency of transition process**: The basic design phase will be more efficient if the progress is frequently reviewed by sales. Through frequent interaction, the sales manager might detect and correct misunderstandings in time. However, excessive correcting might also indicate a transition failure or a failure in the sales phase.

+ **Attainment of satisfaction**, in particular:
  - Less conflict: Conflicts will arise when misunderstandings are detected late. Through being involved, the problem can be solved in an early phase, with less friction.
  - Client satisfaction: Towards the client, the sales manager can act as a ‘bad cop’ and the project manager as a ‘good cop’. Through this sales management involvement as ‘bad cop’, the project manager maintains his/her long-term relationship with the client and the overall client satisfaction will become higher. (advantage of two different disciplines)

+ **Future potential and lessons learned**
  - Improvement of project line: The sales manager can improve his product line during the basic design phase by interacting with the engineers and taking part in the basic design review sessions. (Case D)
  - Sales manager capacities: Through being much involved, the sales manager becomes familiar with the project execution activities. He/she discovers the organizational opportunities and limitations. As a result, the eventual realization of the project will closely resemble his initial concept.

+ **Shift in complexity**: Without much involvement, the project might become more complex through a misunderstanding in the basic design phase. This prone to happen especially when it is detected too late. “My vision is that the project has become much more complex than it should be. The changes happened rather late in the process. As a result, we did not have enough time to formulate the changes and so there were a lot of loose ends.” (Case C)

**Establishing revealed relations**
As stated above, the involvement of sales management will actually contribute to all success dimensions. However, the strength of the relation depends on the context. The following relation can be formulated to explain the general causal mechanism:

> Until the basic design is completed, sales management involvement is likely to contribute to overall transition success if the level complexity is high.

Nevertheless, to say that there is an unambiguous relation to transition success would be quite daft. On the one hand, a sales manager who is much involved after the contract will help to create understanding, review the basic design, and improve the product line. In this way, he or she has a positive impact. On the other hand, the necessity of involvement after the contract might indicate that some process failure was made. At one time, a significant process failure was found when the sales manager had to excessively explain his ideas to the project team after the contract was signed. Another failure was discovered when certain mistakes had to be rectified before the sales manager could leave the project. This negative involvement was mainly discovered in cases where the level of complexity was low. In those little complex projects, frequently consulting the sales manager was necessary because the documentation was often incomplete. In this case, the involvement was
considered as a failure. In highly complex projects, the involvement was largely accepted because the participants claim that comprehensive documentation was not feasible and mistakes were often inevitable. It can be concluded that the involvement of sales management after the contract will contribute to transition success. However, it is necessary to remain watchful as late involvement could be a sign that things have not been going as they should.

Furthermore, the sales management involvement has a stronger influence on some dimensions of success than on others. The strongest relation appears to be that between sales management involvement and ‘Uniformity between concept design and basic design’.

Low sales management involvement after the handover is likely to result in design differences if the project is highly innovative.

This relation is clearly found by case A and C, were two highly innovative projects with a low level of intensity have led to significant design differences. In case A, there was a misunderstanding during the basic design phase. This and the time pressure caused the concept to be ‘radically changed’. The sales manager commented: “There were three basic-design review meetings, but they were too late and everything was already established.” The sales manager in case C stated that he was not much involved in the end of the transition, “The basic design reviews were too little and too late to verify what we had thought.” Consequently, significant adjustments were made in the design and it became considerably different than the concept that was initially presented by sales.

In case D there was no significant design difference. In this moderately innovative project, the intensity of involvement was sufficient to secure the concept. In case B and F the opposite was the case because those little innovative projects did not need intensive involvement. The sales manager in case F stated, “Safeguarding the concept was not a task of the sales manager. Because it was a copy project, the project manager could perform this task.” However, the sales manager in case B claimed that the involvement might still be needed in a copy project. This is the case if the composition of the project team is different from that of the original project.

Finally, case E did not reveal this relation. The level of involvement was high in this little innovative project. The research did not expect much involvement from the sales manager. After further investigation, the intensity grew because the sales manager wanted to remain involved to engineer future upgrades. Moreover, the documentation was not sufficient for the project manager, which made frequent consult necessary. The parties involved did not disagree on the concept after the transition. The sales manager stated, however, that this was a relatively standardized project to Huisman, so it had little to do with the level of involvement.

Summary of findings

Figure 20 summarizes the findings on sales management involvement. Firstly, it shows that the context and complexity determine the choice of sales management involvement. ‘Sales management involvement’ represents the role, timing and intensity properties as a whole. Secondly, SM involvement contributes to all transition success dimensions, whereas the relation to the ‘design difference’ dimension is most apparent. The contribution of SM involvement to transition success will depend on the level of complexity. Project complexity determines how efficient and necessary SM involvement will be. Therefore, the involvement should be carefully adapted to the context in advance.
The dimension ‘completeness and quality of project documents’ is not only influenced by sales management involvement, but in turn, it determines the involvement itself. Here it is found that the involvement should be higher if the quality and completeness of the documentation is insufficient. Otherwise, the project manager will not get sufficient understanding of the project.

The analysis above reveals that excessively involvement of the sales manager could indicate a failure as well. Those failures were mainly related to the understanding of project manager and efficiency of the transition process.
5.4.3 Involvement of specialists during the transition phase

The research mainly focuses on the involvement of sales management and project management. Nevertheless, many specialists get involved during the transition as well. This section represents the finding on the transition method dimension ‘involvement of specialists during the transition phase’. Table 7 was made to explore the relationships within this dimension. The table shows the overall complexity, the explored dimension, and the transition success dimensions.

<table>
<thead>
<tr>
<th>Case</th>
<th>Overall complexity</th>
<th>Timing</th>
<th>Intensity</th>
<th>Overall</th>
<th>Understanding</th>
<th>Tech Docs</th>
<th>Non-Tech Docs</th>
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</tr>
</tbody>
</table>

Table 7 - Specialist involvement: timing and intensity

Influence of context

The choices in timing and intensity are hardly the same across projects and mainly depend on the context. In order to create understanding of specialist involvement, the most influential context factors are explored. In the interviews, the managers explained why they had made certain choices in time, and intensity. These motivations were then analyzed and used to extract the relevant contextual factors. The following list describes the revealed context factors in more detail and provides quotations to strengthen the relations:

- Complexity factors, in particular:
  - Level of innovation, the involvement of specialists starts sooner and is more intense in highly innovative projects.
  - Client type, the involvement of specialists is more intense when the client wants to know everything in detail. “If you have a difficult client, you will notice that not everything is well documented in Huisman. Because of this, much internal discussion was necessary to answer all the client’s questions” (Case F).
  - Time pressure, the specialists are earlier and more intensively involved if the completion date is critical.
  - Lack of resource availability

- Establishment of standards: the need of specialist involvement will be moderate when the product is well established in standards. “...if the standard is settled then the involvement of certain departments is not necessary anymore” (Case D).

Relation to transition success

The following list is provided to reveal the relations between specialist involvement and transition success:
+ **Understanding of project team**: The project team will become familiar with the project through proper involvement in the transition phase (Case C).
+ **Completeness and quality of project documents**: Sufficient specialist involvement is necessary to make a proper and structured check on the concept and contract documents. Besides, they might provide valuable input from their past experience.
+ **Uniformity between concept design and detailed design**: The uniformity will be higher when the project team gets involved in the transition phase. Additionally, it seems to be highly beneficial to transfer a concept engineer along with the course of the project itself. “This concept engineer had to continue to convey the concept and prevent any drastic changes to it” (Case E).

− **Uniformity between concept design and detailed design**: The involvement of specialists might become unsuccessful when the specialists are making significant improvement in the design without verifying and defining the changes (Case C).
+ **Attainment of satisfaction**, in particular:
  
  o Commitment towards project, the project team will show more commitment towards the project when they are more involved in the transition. “…by enabling them to give their input we try to create commitment among the engineers. It doesn’t work to simply tell your engineers, ‘here are all the documents, make something nice of it’, but it should become their machine and their project” (Case A).

**Establishing revealed relations**

In each case, the involvement of specialist was assessed as medium or high. As a result, the implication of little involvement could not be investigated in a specific case. However, the participants provided valuable comments, during the interviews, about the advantages.

Since this dimension is not the focus of the research and the variation across cases is marginal, the following general relation is posed to conclude the findings:

**During the transition phase, specialist involvement is likely to contribute to overall transition success.**
5.4.4 Interaction

This section represents the finding on the transition method dimension: interaction. Table 8 is formulated to explore the relationships regards this dimension. The table shows the overall complexity, the explored dimension, and the transition success dimensions.

<table>
<thead>
<tr>
<th>Context</th>
<th>Interaction</th>
<th>Transition success dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>Overall complexity</td>
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<td>C</td>
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<td>E</td>
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<td>Low</td>
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<tr>
<td>F</td>
<td>Med.</td>
<td>Low</td>
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</tbody>
</table>

Table 8 - Interaction: formality and dialogue

Influence of context

The interaction dimension, divided in formality and dialogue, depends on the context. In order to create understanding of interaction, the most influential context factors are explored. In the interviews, the managers explained the influence of the context on the interaction. These motivations were then analyzed and used to extract the relevant contextual factors. The following list describes the revealed context factors in more detail and provides quotations to strengthen the relations:

- **Complexity factors**, in particular:
  - Level of innovation, the sales manager has to act in a directing way to make choices in the transition phase when a project is highly innovative. “The engineers and the project manager didn’t have enough knowledge to have thoughts about specific decisions”. Additionally, a formal transition is more feasible in a low innovative project (Case E and F) than a project which is highly innovative (Case A and C).
  - Client type, the sale agreements that are made might be based on a trustful relationship with the client, and therefore do not want to be formalized. (Case E)
  - Lack of resource availability, the availability of resources is a precondition to have a sufficient formal way of interaction. “I am working to sell fifteen other projects and I should also pay attention to those. So at a certain moment, it is not possible to use revision control on all the changes that occur and you lose track of the situation.” (Case F). Besides, a two-way dialogue is only possible when both parties are able to participate (Case E).

Relation to transition success

The following list is provided to reveal the relations between interaction and transition success:

- **Understanding of project team**: a formal way of interaction will support to create understanding in the project team. “The transition excels in the level of structure and
control. Most importantly, the engineers who will execute the project knew the process clearly” (Case D).

– **Understanding of project team:** An informal handover will result in a lack of clarity amongst the project team. “The transition in this project was not preformed properly; we had not a formal handover. As a result, the end of the transition phase was not clear.” (Case E)

– **Understanding of project manager:** the project manager will have less knowledge when the sales phase is not well formally documented. “The reporting of the sales phase was insufficient and because of this the project manager had not enough knowledge to communicate with the client on the same level.” (Case F)

– **Attainment of satisfaction, in particular:**
  
  o Project manager satisfaction: The project manager dislikes when a sales manager acts in a directing way and thereby gets by passed. “…the sales manager talked with the engineers without involving me. For example he tried, by backhanded methods, to get more things tested than agreed upon and was feasible.” (Case F)

**Establishing revealed relations**

In each case, the interaction was overall experienced as informal. The research assumes that this is largely part of the company context. As a result, the implication of clearly formal interaction could not be investigated in a specific case. However, the participants provided valuable comments, during the interviews, about the negative impact. Based on these comments the following relation is posed:

**A formal transition is most feasible in moderately innovative projects and is likely to contribute to create understanding in the project team.**

The relation above takes formality as a precondition in the transition but considers the context as well. A formal approach is favorable in a moderately innovative project. Highly innovative projects demand a less formal approach because it has to deal with creativity and uncertainty.

In contrast to formality, the interaction in dialogue was clearly different across the cases. By combining Table 8 with the knowledge from the interviews, the following relation is posed:

**A two-way dialogue between the sales manager and the project manager is feasible in moderately innovative projects and is likely to contribute to attain satisfaction.**

This relation is founded by case B and D, were there was a two-way dialogue and it was not directed by one of the managers. Those two moderately innovative projects led both to a successful transition with high satisfaction. Conversely, the case E and F were the transition was mainly directed by sales, led both to low satisfaction and an unsuccessful transition. Those two projects were not innovative at all to Huisman. The relation is not applicable to case A and C because those projects were highly innovative and therefore needed a directing way of acting from the sales manager.

Figure 21 summarizes the findings on the interaction dimension.
5.4.5 **Attitude**

This section represents the finding on the transition method dimension: attitude. Table 9 is formulated to explore the relationships regards this dimension. The table shows the overall complexity, the explored dimension, and the transition success dimensions.

<table>
<thead>
<tr>
<th>Case</th>
<th>Overall complexity</th>
<th>Readiness</th>
<th>Mutaul opinion of each other</th>
<th>Overall</th>
<th>Understanding</th>
<th>Tech Docs</th>
<th>Non-Tech Docs</th>
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<th>Satisfaction</th>
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<tbody>
<tr>
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<td>Respectful</td>
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<tr>
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<td>Willing</td>
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</tbody>
</table>

**Influence of context**

The attitude dimension, divided in *readiness* and *mutual opinion of each other*, depends on the context. In order to create understanding of attitude, the most influential context factors are explored. In the interviews, the managers explained the influence of the context on the attitude. These motivations were then analyzed and used to extract the relevant contextual factors. The following list describes the revealed context factors in more detail and provides quotations to strengthen the relations:

- **Complexity factors**, in particular:
  - Lack of resource availability, due to time constrains the managers were not always able to show commitment.

- **Manager capacities**:
  - Knowledge of each other’s procedures, managers who know each other’s procedures will show more respect to each other.
Experience in participating during each other’s phase, managers who have experience in each other’s phase will think along their partner and show more respect.

- **Personal relationship**: the personal relationship highly influences the overall attitude during the transition.

**Relation to transition success**

The following list is provided to reveal the direct relations between attitude and transition success:

+ **Attainment of satisfaction**: In all cases, willing to cooperate and showing mutual respect were important conditions to attain satisfaction among the sales manager, the project manager, and the project team.

− **Attainment of satisfaction**, a negative attitude will result in personal conflicts and less commitment towards a project.

+ **Future potential and lessons learned**, a positive attitude will improve the future relationships between the project management and sales manager. Moreover, the relationship between the project engineers and concept engineer will be improved: “The relationship between us (PM and SM) serves as an example for the project team. The project engineers and concept engineers will follow this example” (Case D).

**Establishing revealed relations**

In all cases, both managers were willing to execute the project. As a result, it was not possible to analyze the implication of an unwilling attitude in a specific case. However, the participants provided valuable comments, during the interviews, about the advantages.

As state above, the attitude dimension seems to have only a direct impact on the attainment of satisfaction. However, most interviewee claimed also that a positive attitude is very important to create a successful transition. Indirectly it will influence the transition success as a hole. The following relation is posed:

**Willing to cooperate and showing mutual respect are important conditions to attain satisfaction, and consequently to create a successful transition.**

The importance of being a good example as a manager is captured in the following relation:

**Being respectful to each other as manager likely contributes to diminish the island culture between the concept engineer and project engineers in the future.**

Figure 22 summarizes the findings on the interaction dimension.
5.4.6 Focus

This section represents the finding on the transition method dimension: focus. Table 10 is formulated to explore the relationships regards this dimension. The table shows the overall complexity, the explored dimension, and the transition success dimensions.

<table>
<thead>
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<tr>
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<td>Selling and realization</td>
<td>L</td>
</tr>
</tbody>
</table>

The following relation is posed:

*A balanced focus between selling and realizing projects during the transition is likely to contribute to overall transition success, but is less feasible when the sales negotiations are still in full swing.*
5.5 Relation between transition success and project success

“A project could be a success without a proper transition, but the chance to gain success is bigger if you do the transition properly”.

This section represents the findings on the relation between transition success and project success. Table 11 was made to explore the relationships within this dimension. The table shows the overall complexity, the transition success dimensions, and the project success dimensions.

<table>
<thead>
<tr>
<th>Case</th>
<th>Overall complexity</th>
<th>Transition success dimensions</th>
<th>Project success dimensions</th>
</tr>
</thead>
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Table 11 - Relation between transition success and project success

5.5.1 Influence on the project performances

This part is not available in the public version of this master thesis.

5.5.2 Influence during the project execution

Only two cases revealed as strong relation between transition success and project success by considering only the project performances. Therefore, the relation does not seem that obvious. Nonetheless, all managers indicated that a successful transition will likely contribute to make the project successful and the failures in the transition are unfavorable to the project execution. In the interviews, the managers explained how the transition had influence on the project execution. The motivations were not only directed at the project performance but took a wider view on the influence of the transition. The following list is provided to relate the contribution of the transition to project success in a wider perspective:
• **Communicating on same level with the client:** When the transition succeed to give the project manager sufficient understanding of the project, it will enable him or her to collaborate well with the client in the execution and communicate on the same level (Case E and F).

• **Contribution to time:** It safes a considerable amount of time in the project execution if project management knowledge is used to prevent technical and non-technical agreements which might be time-consuming. For example, the production might be simplified by choosing another welding technique or the way of documenting might be easier by choosing (Case B).

• **Organizational feasibility:** When the transition fails to protect the company, it will have a negative impact on the organizational feasibility. The project manager in Case F stated: “These are just small things, like how we report on a weekly basis. This (what was agreed in the contract) simply doesn’t fit in the normal operation of Huisman” (Case F).

• **Preventing mistakes:** When the transition fails to give the project team sufficient understanding, it will hinder the project execution because engineers will get isolated and commit mistakes (Case A).

• **Preventing manufacturing backlog:** A manufacturing backlog might be prevent through a transition that succeeds to secure the concept design. It will cause a delay in the engineering process when the project engineers are changing the concept to much during the basic-design phase. As a result, the detailed design will be delayed, the shop drawings will not be delivered on time, and the manufacturing will run out of schedule (Case C).

• **Aligning expectations:** A transition which succeeds to give the project team sufficient understanding will encounter less problems towards the end of the project because the expectations are aligned (Case C).

• **Attaining satisfaction:** A project manager prefers to work with a project team that takes their own responsibility. The project team will take their responsibility when they have sufficient understanding after the transition (Case D).

• **Attaining satisfaction:** When the project manager is involved to late, the sales manager cannot handover the project. This will obstruct his daily activities and dissatisfy him or her (Case C and E)

• **Personal relationship:** During the project execution, the personal relationship between the managers will stay tense when the transition does not succeed to establish this.

5.5.3 **Complexity: the moderating effect**

As stated before, a successful transition does not always lead to project success. Neither, a project is condemned after a poor transition. To explain this phenomenon, the complexity of a project has a moderating effect. The following list is provided to prove the moderating effect of complexity:

• In case A, B and C the influence of innovation and complexity should not be underestimated. All interviewees agreed that the chance to gain success is bigger if you do the transition properly. However, they also added to this that the poor project performance is not mainly caused by the transition itself.

• In case E, the transition did not influence the project in a positive way, but neither in a negative way, because it was basically a revision assignment in most aspects. Besides, Huisman had 40 years of history with this client and this gave them a sense of security.
• In case F, the flaw in the transition could be corrected because the project was not technically complex, the project was highly prioritized, and the project manager had experience with the client.

5.5.4 Personal opinion
The project manager in case A stated, “What success entails is first of all determined by personal opinions and therefore, it differs between sales and project management.” By taking this into account, the relation between transition success and project success will also be influenced by the personal opinion of the managers. Since this will differ between sales and project management, it will be recommended to agree on a universal set of success dimensions to measure the success as objectively as possible.
6 Discussion

Before research conclusions can be drawn, there is room for discussion in some parts of the cross case analysis. Commonly a research discussion is started by confronting the research findings with literature, but this is not feasible in this research since the literature review has revealed the lack of knowledge of the transition. However, one article is found that provides a detailed description of the transition from sales to project management (Hamburger, 1992). The findings on transition objectives will be compared to this article in section 6.1. The remaining sections in this chapter will elaborate on interesting discoveries during the cross case analysis: applicability of the TOE framework (section 6.2), the learning cycle (section 6.3), and the influence of an organizational form (section 6.4), and the idea to use one overall manager in order to avoid the transition and its problems (Section 6.5).

6.1 The transition objectives

The analysis of coordination resulted in a set of transition objectives and transition method dimensions. The set of transition method dimensions could hardly be confronted with existing literature due to the limited available knowledge. The literature review exposed one article which is mostly oriented towards the interest of this research (Hamburger, 1992). From this article it is possible to distinguish three transition objectives (section 2.5). The performed analysis has revealed a set of eight transition objectives (section 5.1.1).

<table>
<thead>
<tr>
<th>Transition objectives, per Hamburger</th>
<th>Transition objectives revealed in this research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Handover the project responsibility from sales to the project manager</td>
<td>1. Creating understanding</td>
</tr>
<tr>
<td>2. Inform the project manager</td>
<td>2. Supplying project documents</td>
</tr>
<tr>
<td>3. Provide all project documentation</td>
<td>3. Securing concept</td>
</tr>
<tr>
<td>4. Starting up project</td>
<td>4. Protecting company</td>
</tr>
<tr>
<td>5. Attaining satisfaction</td>
<td>6. Improving knowledge for the future</td>
</tr>
<tr>
<td>7. Reducing complexity</td>
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</table>

Table 12 - Confronting the findings on transition objectives

Table 12 shows the convergence and divergence between the article of Hamburger and the research findings. The first objective of Hamburger is not covered as a transition objective because none of the interviewees clearly considered the handover of responsibility as an objective. The interviewees talked about their role division and the shift which occurs during the transition, but this aspect was mainly questioned as a transition method dimension. To complement the set of transition objectives it is advisable to include ‘handover the responsibility’ as an objective. This objective should be accessed by checking if the project manager has full responsibility. Moreover, every party involved should be aware that the project manager is in charge after the transition.

The second objective and third objective of Hamburg are well covered in the research. ‘Provide all project documentation’ is interchangeable with the objective ‘supply project documents’. The analyzed objective ‘create understanding’ covers the objective ‘inform the project manager’ but has a wider application. The research has examined the involvement of specialists as well and therefore ‘Create understanding’ captures the knowledge of the specialists. The remaining six transition objectives revealed in this research are posed as a contribution to theory.
6.2 The learning cycle

The cross case analysis reveals a ‘learning cycle’ (Figure 24) which supports the importance of project management involvement in the long run (learning over projects). We have seen that early project management involvement will contribute to almost all success dimension of the transition phase. His or her contribution will be significant when he or she has the right capacities: general experience, familiarity with client and project, knowledge of sales procedures and experience in participating during sales phase. Through early and intensive PM involvement, the project manager becomes familiar with the sales phase. Moreover, he or she will understand the limitations and dynamics of this phase and knows how to participate in this in the future. As a result, his or her capacities will improve and PM contribution will be more significant in the future. This cycle is stated as the positive learning cycle.

<table>
<thead>
<tr>
<th>PM early involved</th>
<th>Positive learning cycle</th>
<th>SM wants to involve PM early</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM is familiar with the sales phase</td>
<td>Positive learning cycle</td>
<td>SM wants to involve PM early</td>
</tr>
<tr>
<td>PM is not familiar with the sales phase</td>
<td>Negative learning cycle</td>
<td>SM does not want to involve PM early</td>
</tr>
<tr>
<td>PM later involved</td>
<td>Negative learning cycle</td>
<td>SM does not want to involve PM early</td>
</tr>
</tbody>
</table>

The sales manager also recognizes the importance of the right PM capacities. From his or her perspective, the involvement of PM can be counterproductive when the PM has less experience in the participation during the sales phase. A less experienced PM will not see the limitations and dynamics of the sales phase and consequently is unable to consider the interests of sales. In such a case, the sales manager with a short-term vision might not find PM involvement necessary because it might form an obstruction to him. Consequently, the PM introduction will be delayed and the interaction less intensive. This cycle is stated as the negative learning cycle.
6.3 Comparison with the handover from project management to client and aftersales

Literature on project management extensively discusses the handover from project management to the customer, and if applicable to aftersales. In this final stage of the project, the project gets terminated, the new product is handed over to the client and the responsibility is carried over to an aftersales agent (Meredith and Mantel, 2010). Since little is known about the transition from sales to project management, it will be interesting to make a comparison. In order to make this comparison, the sales phase should be considered as a project on its own, where the sales manager is in charge (like a PM will be during the project execution), the customer remains the same, and the PM will act as the internal client (like the after sales department will do during the project execution).

Comparing the objectives

Meredith and Mantel suggest that “the termination process can be planned, budgeted, and scheduled just as is done for any other phase of the project life cycle”. In this process, a project manager commonly has to achieve the following objectives: (1) Ensure the completion of documentation; including the project’s Final Report, (2) Notify the client of project completion and get their acceptance, and (3) Ensure the completion of work (Meredith and Mantel, 2010). Significant similarities arise after comparing these objectives to the objectives in the transition phase. ‘Ensure the completion of documentation’ for example, corresponds nicely to the transition objective ‘supplying project documents’. Additionally, ‘Notify the client of project completion and get their acceptance’ is partly covered in the transition objective ‘Handing over responsibility’. The objective ‘Ensure the completion of work’ is less obvious connected to the transition. This objective is more related to the sales phase itself, were the sales manager is responsible to terminate his duties properly. Nevertheless, this objective will have some relation with supplying project documents, since the completeness and quality of project documents is of his duties.

<table>
<thead>
<tr>
<th>Transition to project management</th>
<th>Handover to client and aftersales</th>
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</thead>
<tbody>
<tr>
<td>Person in charge</td>
<td>Sales manager</td>
</tr>
<tr>
<td></td>
<td>Project manager</td>
</tr>
<tr>
<td>Internal client</td>
<td>Project management</td>
</tr>
<tr>
<td></td>
<td>After sales agent</td>
</tr>
<tr>
<td>External client</td>
<td>Customer (less focus)</td>
</tr>
<tr>
<td></td>
<td>Customer</td>
</tr>
<tr>
<td>Transition objectives vs. termination duties</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>1. Ensure the completion of documentation (incl. the project’s Final Report)</td>
</tr>
<tr>
<td>2.</td>
<td>2. Notify the client of project completion and get their acceptance</td>
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<tr>
<td>3.</td>
<td>3. Ensure the completion of work</td>
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<td>4.</td>
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<td>8.</td>
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<td>9.</td>
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<table>
<thead>
<tr>
<th>Success dimensions vs. main impact of the termination</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Established responsibility at PM</td>
<td>1. Attainment of satisfaction</td>
</tr>
<tr>
<td>2. Understanding of PM and project team</td>
<td>2. Future potential / lessons learned</td>
</tr>
<tr>
<td>3. Completeness and quality of project documents</td>
<td></td>
</tr>
<tr>
<td>4. Uniformity between concept design and detailed design</td>
<td></td>
</tr>
<tr>
<td>5. Efficiency of transition process</td>
<td></td>
</tr>
<tr>
<td>6. Feasibility within boundaries of the company</td>
<td></td>
</tr>
<tr>
<td>7. Attainment of satisfaction</td>
<td></td>
</tr>
<tr>
<td>8. Future potential / lessons learned</td>
<td></td>
</tr>
<tr>
<td>9. Shift in complexity</td>
<td></td>
</tr>
</tbody>
</table>

Table 13 - Comparing the transition to PM and the handover to client and aftersales
Comparing the success dimensions
Meredith and Mantel further consider the impact of the handover as follows: “The termination stage of the project rarely has much impact on technical success or failure, but is is great deal to do with residual attitudes toward the project—“taste left in the mouth” of the client, senior management, and project team. It also has a great deal to do with learning about the things that lead to success—or failure.” (Meredith and Mantel, 2010). Deduced from this statement, the handover from project management to the client and aftersales influences mainly (1) the attainment of satisfaction and (2) the lessons learned. By comparing this to the transition phase, one will find some significant similarities.

The first success dimension, attainment of satisfaction, is encountered in this research as well. The statement “taste left in the mouth” came up in almost every case and was one of the main reasons to call a transition a failure.

The second success dimension, lessons learned, is likewise encountered during this research. For example the sales manager tries to improve his product line during the transition. Moreover, the learning cycle described in section 6.2 aligns with the feedback cycle in the project termination stage. This research has further revealed the importance of spending enough effort to the lessons learned during the transition. By considering the termination phase of a project, the importance is similarly stated by Cano and Saenz: “If the daily workload does not allow us to examine the final result of the project, to discuss them and to analyze them, to draw conclusion and to make them known, we cannot learn from what he have done.” (Cano and Saenz, 1999).

Comparing the level of involvement
One core issue in this research is the level of involvement during the transition phase. This research claims that the level of integration between the managers and the overlap between the phases should increase. The fact that the finale phase in a project is often called ‘the handover’ implicitly indicates a ‘moment in time’ were the product is delivered to the client or the project is presented to aftersales. However further research is needed, it seems that project management does not recognize a phase were the PM and the aftersales agent collaborate to transfer the project properly. One might claim for example that it would be advisable to involve an aftersales-agent before the product is delivered to a client. By doing so, he/she will become more knowledgeable and this will facilitate the aftersales activities.

Another contrast, concerning the involvement, is the impact on the project content. Meredith and Mantel stated: “The termination stage of the project rarely has much impact on technical success or failure” (Meredith and Mantel, 2010). In the transition phase this is different because the project is still in the concept phase. Moreover, this research claims that the input of a project manager will be valuable to improve organizational and operational agreements in the contract.
6.4 The influence of an organizational form

By considering the model of Hobday (Figure 4 on page 8), the company structure of Huisman can be compared with the balanced matrix (Type C) and currently leans towards a project matrix (Type D). In spite of the shift towards a structure in which project management is a stronger authority, the balanced matrix (Hobday, 2000) is more applicable than any alternatives because the company has the following characteristics:

- Project managers have certain authority but the functional managers are still superior.
- The projects in Huisman are resourced by the functional managers in each department.
- Employees are simultaneously working on different projects.
- There are signs of a so-called island culture across functional departments.
- The functional departments have a wide range of varying reporting requirements and procedures; PM coordination of the alignment of these within an individual project is lacking.
- In some projects, the project manager lacks control over the communication between functional employees and the client (e.g. request for changes).

The balanced matrix within Huisman effect the transition as follows:
- The sales manager has more authority during the sales phase than the project manager. As a result, the transition was more directed by sales and the focus was more on selling. Besides, the role of the project manager is considered as less significant
- The difference between concept design and basic design is more likely to occur when there is an island culture and the project manager lacks control over the communication between functional employees and the client.
- Conflicts are more likely to take place when a matrix structure is applied.

6.5 One overall manager and avert the transition

After interpreting the analysis, one might ask if the transition cannot be averted by using one overall manager on one project and avert the transition. As a result, the problems discussed in section 1.2 will not arise and the process of a project will be simplified. However, the counter arguments are:

- Two different disciplines are needed because both managers have their own expertise and this is hardly to find in one person.
- The alignment across projects and across project groups will become difficult (Project marketing practices).
- One of the advantages of having two different disciplines is attaining client satisfaction. Towards the client, the sales manager can act as a ‘bad cop’ and the project manager as a ‘good cop’. Through this involvement as ‘bad cop’, the project manager maintains his/her long-term relationship with the client and the overall client satisfaction will become higher.
6.6  Applicability of the TOE framework

The research took the TOE framework (Bosch-Rekveldt et al., 2011) as the starting point of this research. The framework was applicable to indicate the complexity of a project in a single case. The research has quantified the technical, organizational, and environmental complexity as ‘low’, ‘medium’ or ‘high’ by scoring each element in the TOE framework.

The framework was less suitable to analyze the relations between coordination, context and transition success. Only a few of the TOE elements were used to describe the relations. Most interviewees considered other elements that determined their choices or had influence on the transition process. Those elements were mostly positioned in a wider perspective and therefore the term ‘context’ is used instead of ‘complexity’. Consequently, the context elements in this research are hardly able to be assessed using the TOE framework.

6.7  Points open for discussion

The following points will be interesting to discuss in more detail: (1) Why the transition is extra important to highly entrepreneurial PBO’s? (2) What is the impact of standardization in the transition process? (It will make it possible to monitor transition success and to judge the manager’s performance in the transition) (3) Is it possible to combine some of the success dimensions in one dimension called ‘decline in complexity’?
7 Conclusions and recommendations

This chapter will finalize the research by providing the answer to the research question in section 7.1. Next, the contribution to managerial practices will be discussed in section 7.2 and the contribution to theory in section 7.3.

7.1 Answer to research question

The main research question is: how can the transition from sales to project management be improved? The answer to this question is divided in three parts. The transition from sales to project management can be improved by (1) knowing the core concepts in the transition, (2) knowing the casual relations in the transition, and (3) knowing the impact of transition success on project success. In section 7.2, more practical recommendation will be provided to improve the transition from sales to project management.

7.1.1 The core concepts in the transition phase

The result of the cross case analysis is a detailed description of the core concepts (section 5.1, 5.2, and 5.3). Figure 25 summarizes the findings in a detailed conceptual model. This model provides the knowledge on the transition objectives, methods, success measures and context factors.

![Detailed conceptual model](image_url)
7.1.2  Relations between coordination, context and transition success
The relations between the core context, coordination, and success are explored in section 5.4. To summarize the findings the higher level relations are listed below:

- Early PM involvement before the handover is likely to contribute to a high level of satisfaction, almost irrespective of the context.
- High intensity of PM involvement before the handover is likely to contribute to overall transition success if the level of complexity is high.
- Until the basic design is completed, sales management involvement is likely to contribute to overall transition success if the level of complexity is high.
- Low sales management involvement after the handover likely results in design differences if the project is highly innovative.
- During the transition phase, specialist involvement is likely to contribute to overall transition success.
- A formal transition is most feasible in moderately innovative projects and is likely to contribute to create understanding in the project team.
- A two-way dialogue between the sales manager and the project manager is feasible in moderately innovative projects and is likely to contribute to attain satisfaction.
- Willing to cooperate and showing mutual respect are important conditions to attain satisfaction, and consequently to create a successful transition.
- Being respectful to each other as manager likely contributes to diminish the island culture between the concept engineer and project engineers in the future.
- A balanced focus between selling and realizing projects during the transition is likely to contribute to overall transition success, but is less feasible when the sales negotiations are still in full swing.

7.1.3  Relations between transition success and project success
The case study data has revealed that a successful transition will likely contribute to a successful project. The direct relation to the project promises on scope, time, costs, and quality was only revealed in 2 cases (section 5.5). This evidence was not enough to prove the relation and so a wider perspective is taken. By considering the influence on project execution, all cases provided valuable examples to state that a successful transition is likely to contribute to project success. The supporting motivations were related to: (1) Communication on same level with the client, (2) Contribution to time, (3) Organizational feasibility, (4) Preventing mistakes, (5) Preventing manufacturing backlog, (6) Aligning expectations, (7) Attaining satisfaction, (8) Personal relationship.

Nevertheless, a successful transition does not always lead to project success. Neither, a project is condemned after a poor transition. To explain this phenomenon, the complexity of a project has a moderating effect. In complex projects it is more likely that a project still fails in spite of a successful transition. On the other hand, in projects of low complexity it is still possible to attain project success after a failed transition.
7.2 Recommendations for Huisman

As summarized above, the cross-case analysis resulted in a set of operationalized core concepts and relations. These hypothetical results are relevant for the contribution to theory and are less applicable for managerial implementations. All stated concepts and relations might seem valid by considering them in isolation, but the practical application will be less useful. The results are less practical because it is more important for managerial purposes to understand how everything ties together. This section presents an integrated story to discuss the recommendations in a wider context with a focus on reality. First, it tries to find an answer to the question: how should the transition look within Huisman? Second, it will propose an advice on what Huisman should do to achieve this ideal situation.

7.2.1 How should the transition look within Huisman?

The project start will differ in every case. A project might start through a question from a client or intensive marketing. In another case, a fruitful previous project or an invitation to tender might be the cause. Anyhow, a sales manager will start on a project someday. At this moment, the sales manager forms a pleasant relationship with the client and tries to answer all their questions. The concept engineers, led by the sales manager, start to draw the first concept drawings or customize the previous design. Moreover, the project agreements have to be established in a formal contract. All those activities might be time-consuming but should not suppress the importance of the upcoming phase: The transition from sales to project management.

The start of the transition phase

The transition phase starts when the PM gets involved. The moment of involvement will depend on the context but should mainly take place when it is certain enough that the project will be sold. This certainty should be instinctively grasped by the sales manager and he/she should discuss the necessity of project management with the manager of projects. The manager of projects will finally be responsible for assigning the PM, but without the sign from sales management this task will not be executed. The time between PM involvement and signing the contract should be sufficient in order to offer the PM the possibility to review the project carefully. In this case study, two weeks before signing the contract (or letter of intent) was considered as sufficient in less complex projects. In contrast, the timing of involvement might rise up to two months in extreme complex and innovative projects. By means of proper PM involvement, the client and sales manager will be more convinced in a successful transition and the PM will feel more committed and does not face a fait accompli.

The transition objectives

After the PM is involved, the sales and project manager have to collaborate to accomplish a set of transition objectives. The main objective should be to establish the project manager’s responsibility as firmly as possible. In the end, the PM should be able to perform his/her task in executing the project and he/she should be prevented from being bypassed. In order to establish the responsibility, the sales manager should announce the new PM to the client and the organization. The client should understand that his point of contact will change after the handover. Moreover, the sales manager should strive to inform the PM on the project to the greatest extent possible and supply the right project documents. The contract, planning, budget, technical specifications, technical drawings and demarcation list are important project documents. Nevertheless, the project background information
should be considered just as important for the transition. This information includes a description of the verbal arrangements, client personality, project history and future expectations.

Beyond the objective of handing over responsibility, both managers should also pay attention to other goals during the transition. The twosome should strive to protect the company and reduce the complexity. Since the PM is involved before the contract is signed, he/she will be able to provide valuable input about the feasibility within the boundaries of the firm. Moreover, the PM should consult the sales manager in order to reduce the (organizational) complexity. For example, the PM might give advice on issues regarding agreements on communication and documentation during the project execution.

The transition phase does not end after the contract is signed and the sales manager will stay involved to secure the concept and assist the PM. The goal of ‘securing the concept’ is to guide the project in the right direction until the basic design has been completed. The project engineers might conceive the concept design different from the concept engineers and this has to be prevented. In addition, the sales manager will be able to improve his product line at the end of the transition.

**Choices in the transition**

In each project the transition will differ because Huisman has to deal with a great diversity of products. Projects differ in complexity, level of innovation, time pressure, client type and project team. By taking the different product groups of Huisman into account, the complexity is highly significant for drilling towers, averagely significant for pipelay systems, and moderately significant for cranes. The transition should be carefully adapted to the context in order to obtain success.

The intensity of project management and sales management involvement should be adjusted to the context. By means of a proper adjustment in advance, the transition will become more effective and resources will be sufficiently dedicated. Sufficient means that the effort spent in the transition phase is not too little, but also not too much. By considering the PM involvement after the transition has started, the involvement of PM should be intensive in complex projects that are critical in time and less intensive in little complex projects that have ample time. Additionally, the intensity should be higher when the client relationship is unstable, the client demands a lot of interference in the operations of Huisman, and the client formulates extremely detailed contracts.

After the contract is signed the intensity of sales management involvement should be adjusted as well. The involvement should be intensive in complex project that are highly innovative and less intensive in little complex project that are nearly standardized. Furthermore, one should verify if the project team is similar by performing a complex copy project. By having a different project team, the involvement should become intense as well.

It is also recommended to involve specialists during the transition, especially in complex and highly innovative projects. The involvement will not only contribute to the completeness and quality of project documents, but also the project team will feel more committed to the project and achieve a better understanding of the project.
At a certain moment in the transition phase, the managers should schedule a kick-off meeting. In this case study, the right time to plan the meeting is only one or two weeks after a project is formally secured in a contract or letter of intent. There are two important aspects in the kick-off meeting; (1) presenting the project background information and (2) announcing the handover of responsibility. Presenting technical specifications is less important to discuss in detail.

**The end of the transition phase**
The transition phase lasts until the basic design is completed and then the sales manager retreats from the project. In little complex projects, the sales manager might retreat early in the process because the PM is able to gather the essential knowledge sooner. Moreover, he/she is capable to secure the concept. After the transition is finished, both managers should reflect on the transition objectives and discuss the lessons learned.

7.2.2 **What should Huisman do to achieve the ideal situation?**
The transition approach sketched above seems to be too idealistic and the actual affairs are different. The transition is not that straightforward because the sales phase in a highly complex project is in reality very dynamic and has a long time span. In this world, the transition will be influenced through a changing context and therefore the approach should be more flexible. Nevertheless, the sales phase in a little complex project will be less dynamic and therefore the transition will be more straightforward. Additionally, the client relationship might be very well founded. As a result the sales negotiations are trustful and nothing would hold Huisman back to involve a project manager and start the transition. In this case, the transition approach sketched above will be more applicable and realistic.

In spite of the variety in project complexity, this research suggests general points of improvement. By implementing these recommendations, Huisman will most likely come closer to the ideal situation.

The following section will provide the recommendation to facilitate Huisman in improving the transition from sales to project management.

**Willingness and respect**
In general the transition concerns the collaboration between a sales and a project manager. Willingness and respect are key aspects in the collaboration between the two parties. Therefore it is important to create an environment within Huisman where this atmosphere exists. A transition without ‘willingness to cooperate’ and ‘showing mutual respect’ is very likely to result in a failure. It is interesting to notice that a respectful environment will likewise diminish the ‘island culture’ between the concept engineers and project engineers in the future, because the relationship between the managers will serve as an example. In other words, willingness and respect are pre-conditions for a successful transition.

To create this environment within Huisman, all parties should understand the challenge and notice the advantages of a proper transition. They should not only understand the advantages for themselves but likewise for the company’s performance. In order to create this consciousness, one should hold a mirror up to the organization and all stakeholders should start a dialogue. This research aims to create a sense of urgency within Huisman and the detailed case descriptions will help to understand the current affairs.
Increasing the knowledge on each other’s procedures

After understanding the advantages of a proper transition, the managers should obtain more knowledge on each other’s way of working. By obtaining this knowledge, mutual respect and willingness to cooperate will increase as well. This learning process will take some time because the managers will obtain this knowledge mostly through participating in each other’s phases (section 6.2 on page 60).

Considering project management, intensive involvement before the handover is recommended because the PM will be familiarized with the activities in the sales phase. Moreover, he/she will understand the limitations and dynamics of this phase and knows how to participate in the future. These skills are highly important because the project manager should be able to think along with the interest of sales, cooperate in a constructive way and provide specific criticism. Intensive involvement, without those skills, will be counterproductive for the transition.

From the side of sales management, intensive involvement after the handover is recommended because the sales manager will be familiarized with the project execution phase. He or she will most likely discover the organizational opportunities and limitations. As a result, the realization of the project will closely resemble his/her initial concept.

Availability

Another pre-condition for the transition is the availability of human resources. Without this availability the collaboration between the sales and project manager will be a challenge and the transition is likely to result in a failure. Huisman should guarantee this availability by increasing the capacity and/or efficiency within the departments.

Currently, the capacity of the project management department is too little and should increase to create involvement of PM sooner. In case of two projects being assigned to one PM and he/she is overloaded with work, the PM will be likely to put more effort in finalizing one of the two projects. By considering the workload, the project initiation phase and commission and testing phase will demand high PM intensity and the fabrication phase demands less. This makes it possible to simultaneously execute two projects, but it is a challenge. Furthermore, it is remarkable that a successful transition is likely to contribute to increase the PM availability because it will support the activities in the initiation phase and the agreements regarding commission and testing might become more feasible.

The same applies to the sales department because they should have time available to transfer the project properly to project management. After a contract is signed, they should not have to spend all their efforts immediately on another project. It is interesting to notice that a successful transition will increase the availability of sales management because the aftermath will decrease.

Involving the engineering and preventing isolation

Deduced from several interviewees and from general observations, it seems that the general work ethos among the engineers in Huisman is in some cases problematic. Several engineers work too much in isolation and are too ambitious in attempting to improve the concept. Huisman should improve this work ethos because otherwise the impact of a successful transition will not be as effective in attaining project success. Involvement of the engineers in the transition phase will partly contribute to solving this problem by creating understanding and inspiring commitment with the engineers.
Changing the approach

After the recommendations previously suggested are implemented, it will become feasible to improve the approach in the transition phase within Huisman. The transition approach should develop towards the ideal situation. The following recommendations are suggested to change the approach:

- The involvement of project management should increase in the sales phase, especially in a sale of which the sales manager is sufficiently secured that the contract will be signed.
- Huisman should assign more importance to a ‘letter of intent’ and consider this being almost the same as a final contract. In respect to this, the project manager should get sufficiently involved before a ‘letter of intent’ is signed.
- The involvement of sales management should increase after the project is secured in a contract, especially in highly innovative and highly complex projects.
- To determine the timing and the intensity of involvement in the transition, it is recommended to consider the following context dimensions: (1) contract certainty, (2) level of innovation, (3) organizational complexity, (4) client type, (5) time pressure, and (6) similarity of project team.
- An intensified two-way dialogue between the sales manager and the project manager is recommended to attain more satisfaction, especially in moderately innovative projects. A two-way dialogue is less feasible in highly innovative projects because in those, the sales manager has to act in a directing way since he has much more knowledge of the concept.
- Huisman should continue their practice of promoting one concept engineer to mechanical engineering only during the period of the project itself. This concept engineer has to continue to convey the concept and prevent any drastic changes to it.

Applying standardization and procedures

Creating common sense, increasing availability, involving engineering and improving the transition approach are the first steps to come closer to the ideal situation. The next stage will be the introduction of standardization and procedures. Huisman should handle this implementation carefully. As discussed before, a project might be highly complex and dynamic and therefore a standardized transition will not be applicable, or even counterproductive.

Nevertheless, in little innovative projects, a more standardized and formal transition process is recommended in order to increase the efficiency of the transition. Additionally, the process will become more transparent and this will be helpful for measuring progress and success. This will also enable the general managers to judge the performance of the sales manager and project manager.

Huisman is recommended to further develop a tool for determining the timing and intensity of PM involvement. This tool should handle the process of assigning a project manager to a project in a proper way. Currently, some project managers face a fait accompli or consider that it is indecent how they get introduced. The process description should include (1) the task of the sales manager to indicate the necessity of PM involvement, (2) the decision making, which is based on the proposed context dimensions, and (3) the task of the manager of projects to assign the PM on time.

Finally, Huisman is recommended to improve the procedure that describes the basic design process. It should become clear how the sales manager gets involved in the basic design phase and by whom this is done. The sales manager’s tasks to review the basic design and to improve the product line should be clearly distinguished from his commercial activities.
7.3 Contribution to theory

The performed research examines a project-based company in two scientific fields; project marketing and project management. As argued for in the literature review, a recent trend has developed towards the integration of both scientific fields, and generally its importance has been acknowledged. However, the two disciplines are still insufficiently connected and this makes our specific knowledge of the transition from sales to project management limited.

Through this minimum of existing knowledge, the research is carried out according to an exploratory approach. This strategy has led to theoretical insights regarding the largely unknown transition process. The theoretical insights are captured in a conceptual model with detailed concepts (Figure 25) and relations (Sections 7.1.2 and 7.1.3). The contributions of this conceptual model to theory are assessed by the identification of the knowledge gap, describing the link to the field of Management of Technology, discussing the validity of the claims that were made and suggesting further research.

Knowledge gap

The contribution this research makes to the field of project management is an attempt at mapping a specific part of the FED phase: the transition from sales to project management. Project management literature seems to neglect the circumstances in which a sales manager fully prepares the project and transfers the job to project management after the contract is signed. This research takes into account that project managers in project-based companies often become a part of the project in a later stage. The study concerns the little-known transition phase in which the sales manager and project manager collaborate to handover the responsibility. Earlier research was performed by Hamburger, but he only considers the scenario in which a project manager is introduced after the contract is signed (Hamburger, 1992). This research discusses a more integrated approach where the project manager is involved before the contract is signed, and in which he or she interacts with sales. Additionally, the conceptual model provides a detailed explanation about the coordination choices that are made in the transition and about how to measure transition success.

Link to Management of Technology

The field of Management of Technology (MoT) tries to gain an understanding of technology as a corporate resource. Moreover, it focuses on managing knowledge in the design and development of products for maximum customer satisfaction, corporate productivity, profitability and competitiveness (TU Delft, 2012). The research has investigated the integration of project marketing and project management practices to improve the corporate productivity of designing and developing products. Therefore the study contributes to the knowledge in the field of Management of Technology.

Validity

The quality of contribution is verified by assessing the case study design through four conditions: (1) construct validity, (2) internal validity, (3) external validity, and (4) reliability (Yin, 2009). The construct validity is ensured by using multiple source of evidence for collecting data. Moreover, key informants reviewed the draft of every case study report. The research also guaranteed internal validity because it could carefully try to examine if the causal relation is effectively fundamental to the studied factors. The analytical technique, to secure the internal validity, is formulated in the data collection protocol. The external validity of this research was more restricted, insofar the case study only examines projects in the offshore construction industry at Huisman. The one company
perspective might thus prompt questions about the external validity. However, there was no common practice in executing the transition within Huisman and therefore the transition approach varied over the involved managers. Moreover, there was a variety in complexity across the three different project groups. Considering this and the limited research time, the external validity was deemed sufficient to proceed. Finally, the research warrants reliability through developing a case study protocol, writing out the interviews and storing all data in a solid case study database.

**Further research**

The research was carried out using an exploratory approach and therefore paves the way for further research. In this research, a detailed conceptual model was developed to describe the transition from sales to project management. The model was developed using a case study methodology combined with qualitative data. A case study is a proper way to assess how and why certain decisions are taken in a real-life context. The qualitative data are applicable to discover what was formerly unknown and to see the world from the perspective of the participants, as it were. Qualitative data are used to reveal patterns rather than to test concept dimensions.

In the well-known “Wheel of Science”, the process above is described as an inductive approach and has led to the construction of a conceptual model (Wallace, 1971). This conceptual model describes several proposed relations (sections 7.1.2 and 7.1.3). In further research, the relations should be deductively tested in order to validate and improve the conceptual model. The tests should be performed by collecting quantitative data from a relatively large number of research units.

This cross-case study has a one company perspective and therefore suggests further research across other PBO’s in other industries. It would be especially interesting to consider a company that differs greatly from Huisman; of which the sales managers are much more driven by commerce and personal conflicts tend to be much more intensive, for example. In the cases here examined, the transition process was rather informal. Therefore, future research should focus on a company with a very formal transition process, if the impact of formality on transition success is to be revealed.
References


KODAMA, M. 2007. Project-Based Organization in the Knowledge-Based Society, Imperial College Press.


MANDJAK, T. & VERES, Z. Year. The DUC model and the stages of the project marketing process. In, 1998.

TU DELFT. 2012. Flyer: MSc programme Management of Technology. Faculty: Technology, Policy and Management (TPM).
## Appendix I: Interview protocol transition from Sales to PM (Dutch)

<table>
<thead>
<tr>
<th>Categorie</th>
<th>Subcategorie</th>
<th>ID</th>
<th>Vraag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin</td>
<td>Uitleg</td>
<td></td>
<td>Het doel van het interview is om de relatie tussen coördinatie, context en handover succes te onderzoeken.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Het gaat om een inventarisatie van persoonlijke visies en afwegingen en niet om formele standpunten van een afdeling.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Het interview zal gebruikt worden om het onderzoek te onderbouwen met quotes. Bij het citeren blijven geïnterviewde, project, en klant anoniem.</td>
</tr>
<tr>
<td></td>
<td>bevestiging</td>
<td>1.1</td>
<td>Is het goed als ik het interview opneem met mijn telefoon?</td>
</tr>
<tr>
<td></td>
<td>Uitleg</td>
<td></td>
<td>De handover fase is de periode waarin de salesmanager en projectmanager intensief samen werken om uiteindelijk een project over te dragen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>De volgende aspecten zullen worden behandeld in het onderzoek: succes, context, manier van coördinatie en voorgaande condities. Voor elk aspect zal eerst een zeer open vraag gesteld worden. Daarna volgen er meer specifieke vragen. Het interview zou ongeveer 60 minuten duren.</td>
</tr>
<tr>
<td>vragen</td>
<td>1.2</td>
<td></td>
<td>Heb je vragen voordat we het interview starten?</td>
</tr>
<tr>
<td>Handover resulataat (15 min)</td>
<td>algemeen*</td>
<td>2.1</td>
<td>Beschouw je de handover als succesvol?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Op welke manier beschouw je de handover succesvol?</td>
</tr>
<tr>
<td></td>
<td>volledigheid en kwaliteit</td>
<td>2.3</td>
<td>Is de scope definitie voldoende om de projectuitvoering op te starten? [PM]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.4</td>
<td>Is de scope definitie voldoende formeel vast gelegd?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5</td>
<td>Is er een verschil in interpretatie binnen het project (b.v. concept vs. detail design)?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.6</td>
<td>Komt de projectmanager vaak terug naar de salesmanager voor toelichting tijdens de projectuitvoering (duidelijkheid)?</td>
</tr>
<tr>
<td></td>
<td>project team</td>
<td>2.7</td>
<td>Hoe heb jij de samenwerking tussen sales en projectmanagement ervaren (gevoelsmatig: prettig, afstand, respectvol, traag, informeel, bot, stressvol, verhinderend, etc.)?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.8</td>
<td>Ben je het eens met de scope? [PM]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.9</td>
<td>Heb je voldoende kennis over de gemaakte keuzes tijdens het sales traject? [PM]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.10</td>
<td>Heb je voldoende geleerd tijdens de samenwerking om in de toekomst je prestaties te verbeteren (bv. inschatten, overdragen, opstarten)?</td>
</tr>
<tr>
<td></td>
<td>klant</td>
<td>2.11</td>
<td>Hoe denk jij dat de klant deze overgangsfasen heeft ervaren?</td>
</tr>
<tr>
<td></td>
<td>tijd</td>
<td>2.12</td>
<td>Wat is jouw visie op de duur van de handover (B.V. tijd tussen contract en kick-off, het project wordt vertraagd door de handover)?</td>
</tr>
<tr>
<td></td>
<td>kosten</td>
<td>2.13</td>
<td>Wat is jouw visie op de gemaakte kosten tijdens de handover?</td>
</tr>
<tr>
<td></td>
<td>project succes</td>
<td>2.14</td>
<td>Heeft de handover de projectuitvoering positief of negatief beïnvloed (scope tijd, kosten, kwaliteit)?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.15</td>
<td>Heeft de handover tenslotte geleid tot een tevreden klant, projectteam, GM, etc.?</td>
</tr>
<tr>
<td>Context (10 min)</td>
<td>algemeen*</td>
<td>3.1</td>
<td>Is dit project complex voor Huisman?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Waar vind je de complexiteit terug in dit project?</td>
</tr>
<tr>
<td></td>
<td>HSSE</td>
<td>3.3</td>
<td>Lag er sterke nadruk op HSSE aspecten?</td>
</tr>
<tr>
<td></td>
<td>Bestuur</td>
<td>3.4</td>
<td>Werd het project voldoende ondersteund door het bestuur?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.5</td>
<td>Lag er veel druk op het project vanuit het bestuur? (prestige kwestie)</td>
</tr>
<tr>
<td></td>
<td>Goals</td>
<td>3.6</td>
<td>Waren de business goals duidelijke en gelijk binnen Huisman medewerkers?</td>
</tr>
<tr>
<td></td>
<td>Stakeholders</td>
<td>3.7</td>
<td>In welke mate is Huisman afhankelijk van de andere stakeholders binnen het project?</td>
</tr>
<tr>
<td></td>
<td>definiëren</td>
<td>3.8</td>
<td>Na het vooronderzoek is gebleken dat het project gekarakteriseerd word door de volgende punten. Ben je het hiermee eens? Heb je nog punten toe te voegen?</td>
</tr>
</tbody>
</table>
### Coördinatie gericht op doel** (10 min)

<table>
<thead>
<tr>
<th>algemeen*</th>
<th>4.1</th>
<th>Welke doelstellingen moesten er aan het eind van de handover fase behaald worden?</th>
</tr>
</thead>
<tbody>
<tr>
<td>documenten (producten)</td>
<td>4.2</td>
<td>Welke documenten moesten volledig zijn na de handover? (contract, sales budget, concept drawings, technical specifications, demarcation list, rules and regulations, work breakdown structure -reference to previous projects, en future use.</td>
</tr>
<tr>
<td></td>
<td>4.3</td>
<td>Op welke documenten lag de focus?</td>
</tr>
<tr>
<td></td>
<td>4.4</td>
<td>Welke documenten hadden minder prioriteit en/of waren niet volledig?</td>
</tr>
<tr>
<td>tevreden</td>
<td>4.5</td>
<td>Was het tevredenstellen van de klant een duidelijke doelstelling tijdens de overdracht?</td>
</tr>
<tr>
<td>begrip</td>
<td>4.6</td>
<td>Was het uitleggen en begrijpen van gemaakt keuzes een duidelijke doelstelling?</td>
</tr>
<tr>
<td>verbintenis</td>
<td>4.7</td>
<td>Was het creëren van een team een duidelijke doelstelling?</td>
</tr>
<tr>
<td></td>
<td>4.8</td>
<td>Was het creëren van een eenheid bij overeenkomsten een duidelijke doelstelling? (verbintenis met project)</td>
</tr>
<tr>
<td>leren</td>
<td>4.9</td>
<td>Was het vergaren van kennis, om in de toekomst persoonlijke prestaties te verbeteren, een duidelijke doelstelling? (leren)</td>
</tr>
</tbody>
</table>

### Coördinatie gericht op methode** (15 min)

<table>
<thead>
<tr>
<th>algemeen*</th>
<th>4.10</th>
<th>Hoe zijn jullie te werk gegaan in de handover fase?</th>
</tr>
</thead>
<tbody>
<tr>
<td>regels en procedures</td>
<td>4.11</td>
<td>Wat is de rol geweest van projectmanagement in de sales fase?</td>
</tr>
<tr>
<td></td>
<td>4.12</td>
<td>Wat is de rol van sales geweest in de projectmanagement fase?</td>
</tr>
<tr>
<td></td>
<td>4.13</td>
<td>Was de overgang gecoördineerd van uit een process flow diagram?</td>
</tr>
<tr>
<td></td>
<td>4.14</td>
<td>Was de algemene focus gericht op verkoop of realisatie?</td>
</tr>
<tr>
<td></td>
<td>4.15</td>
<td>Wat is jouw visie op de hoeveelheid man uren in de overgangsfase?</td>
</tr>
<tr>
<td></td>
<td>4.16</td>
<td>Welke specialisten waren er betrokken? (Estimation, Planning, Control, Engineering en Legal)</td>
</tr>
<tr>
<td>tijd</td>
<td>4.17</td>
<td>Wanneer is de projectmanager in de sales fase betrokken?</td>
</tr>
<tr>
<td></td>
<td>4.18</td>
<td>Wanneer heeft de salesmanager de handover documenten overgedragen en is de verantwoordelijkheid bij de projectmanager komen te liggen?</td>
</tr>
<tr>
<td></td>
<td>4.19</td>
<td>Wanneer zijn er specialisten betrokken?</td>
</tr>
<tr>
<td></td>
<td>4.20</td>
<td>Hoelang duurde de handover (over de schutting vs. lang)?</td>
</tr>
<tr>
<td>formele interactie</td>
<td>4.21</td>
<td>Hoe zijn de gemaakte keuzes en overeenkomsten met elkaar gecoördineerd?</td>
</tr>
<tr>
<td></td>
<td>4.22</td>
<td>Hoe zijn de wijziging in de gemaakte keuzes en overeenkomsten met elkaar gecoördineerd?</td>
</tr>
<tr>
<td>informele interactie</td>
<td>4.23</td>
<td>Hoe worden keuzes gemaakt? (gemeenschappelijk vs. individueel)</td>
</tr>
<tr>
<td></td>
<td>4.24</td>
<td>Hoe komen keuzes tot een overeenkomst?</td>
</tr>
<tr>
<td></td>
<td>4.25</td>
<td>Hoe is de persoonlijke verhouding tijdens de communicatie? (respect &amp; inzet)</td>
</tr>
</tbody>
</table>

### Afsluiten (10 min)

| coördinatie | 5.1 | Mis je een punt van coördineren? Laat de lijst met coördinatie factoren zien |
| context | 5.2 | Welk punt van coördinatie moet zo snel mogelijk worden verbeterd en zal het meest winst geven voor de organisatie? |
| Voorgaande condities | 5.3 | Welke context factor zou het meest invloed moeten hebben op de manier van coördineren in de handover fase? |
| | 5.4 | Wat zijn de voordelen van een succesvolle handover voor het uitvoeren van jou functie? |
| | 5.5 | Waarop wordt jij uiteindelijk beoordeeld bij jou werk? |
| | 5.6 | Hoe zou een bepaalde manier van handover coördinatie je werk kunnen hinderen? |
| afhandeling interview | 5.7 | Bedankt voor dit interview; ik ga de informatie van dit specifieke project vast leggen in een rapport. Zou u dit rapport willen bekritiseren? |
Appendix II: Questionnaire (Pre-scanning the cases)

This Appendix is not available in the public version of this master thesis
## Appendix III: Scoring the TOE elements

<table>
<thead>
<tr>
<th>Technical complexity (internal)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>High number of project goals</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Non-alignment of project goals</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unclearcy of project goals</td>
<td>++</td>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Uncertainties in scope</td>
<td>+</td>
<td>++</td>
<td>--</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strict quality requirements</td>
<td>++</td>
<td></td>
<td>+</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project duration</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size in CAPEX</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Number of locations</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newness of technology (world-wide)</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of experience with technology</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High number of tasks</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>High variety of tasks</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Dependencies between tasks</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>--</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Uncertainty in methods</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td></td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Involvement of different technical disciplines</td>
<td>++</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflicting norms and standards</td>
<td>++</td>
<td></td>
<td></td>
<td></td>
<td>(++)</td>
<td>(++)</td>
</tr>
<tr>
<td>Technical risks</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational complexity (internal)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>High project schedule drive</td>
<td>--</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td></td>
</tr>
<tr>
<td>Lack of Resource &amp; Skills availability</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td></td>
</tr>
<tr>
<td>Lack of experience with parties involved</td>
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