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Integral Project Management for international project-based organizations

An empirical study into the practices from infrastructural projects in Saudi Arabia during the engineering & design phase in order to evaluate Integral Project Management concept in Saudi cultural context

TU Delft

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An empirical study into the practices from infrastructural projects in Saudi Arabia during the engineering and design phase in order to evaluate Integral Project Management concept in Saudi cultural context

By

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An electronic version of this thesis is available at http://repository.tudelft.nl/.

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This thesis is dedicated to my lovely parents, whom have always motivated and supported me.
'After fleeing the war, they have taught me that men can steal everything from you except knowledge'

Foreword and Acknowledgement

As a foreigner I am living for more than 18 years in the Netherlands while experiencing the cultural differences on a daily basis. Didn't I fully integrate in the society? Studying culture through this research made me aware of all the cultural collisions I have dealt the last years. However, during the years all these cultural collisions made me adaptable and culturally sensitive while interacting with people. With this research I have stepped with one foot on the field of project management while with the other I have stepped into the field of social anthropology. The first step involved the search for knowledge about the concept Integral Project Management while the latter brought me to a conscious understanding of the complexity of culture. Through this research I have acknowledge culture to be a rich full phenomenon which is present in every layer of the society.

This thesis is written as a part of my graduation project for the Technical University of Delft. Subsequently, with it I finish my masters Construction Management and Engineering (CME) at the faculty of Civil Engineering. This research is conducted for the engineering and consulting company Royal HaskoningDHV and in particular for the Head Advisory Group (HAG) and the Knowledge Group (KG) Project Management. Royal HaskoningDHV is an independent, international engineering and project management consultancy with over 130 years of experience. The core business of Royal HaskoningDHV is on the one hand delivering high performance solutions for the private clients such as contractors and on the other hand providing supervision and full knowledge assistance on the side of the client such as public organizations. In the recent years, the HAG and KG have acknowledged the discipline of Project Management to be essential for today's complex projects. Further professionalization of this discipline is necessary to provide the clients state of the art of Project Management solutions. A recent development is Integral Project Management (IPM). IPM is no new method for executing projects; rather it is a way of organizing your portfolio and efficiently using your resources as an organization in combination of your current tools and methods. In the last decade it has proven successful within the public projects. In line with the recent decision of the executive board of Royal HaskoningDHV to become a transnational organization, the question arose at the HAG and KG whether this concept of IPM can be used in projects abroad in particular to take Saudi Arabia as a case. To gain insight into the possibilities, a preliminary study in the form of master thesis was started. With great pleasure, I chose this challenging topic as graduation research to complete my master's degree. Together with the HAG of Amsterdam i.e. company's supervisor who has the function of Line management, the following research question has been formulated: "*What lessons can be learned from the initial phases of construction projects in Saudi Arabia in order to assess Integral Project Management in the context of the Saudi cultural context?* " This research is conducted under the supervision of Richard Venekamp (RHDHV), Martin de Jong (TUD), Mark de Bruijne (TUD) and Leon Hombergen (TUD).

Making the final part of my study a success would not be possible without my graduation committee. I thank them for their feedback and guidance. I am grateful for the opportunity Royal HaskoningDHV has provided me to finish my study. Most importantly, I would like to thank my supervisor in RHDHV, Richard Venekamp, who has provided me all the support I needed to fulfil this task and in particular Jurgen Herbschleb. I need to express my gratitude to each professional for their valuable insights. And not to forget all those individual professionals outside the company, especially Freek Wermer, Rob Jongkind, Hans Ruiter, Ajold Muntinghe, Karen Smits and Majid Matbouly. Last but not least, I would like to thank my family and family in law for their mental, moral and material support.

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Executive summary

Introduction

Infrastructural projects in the construction industry getting complex in several domains: environment e.g. demanding stakeholders and public participation, technical solution, contracting e.g. integrated contracts, and control. (inter)national project-based organizations strive to optimize their project organization and professionalize the project management discipline. Simultaneously, project-based organizations are facing difficulties to manage international projects. As traditional project management do not comply with today's complex infrastructural projects, the problem of this research can be stated as: *how can integral project management (IPM) contribute towards project-based organizations to efficiently organize and execute (inter)national projects?* The objective of this research is formulated as: *to explore practices and organizational processes in Saudi Arabian projects in order to formulate recommendations for project-based organizations in order to asses if integral project management concept can bring improvement towards the project organization and management.* Out of the objective and problem statement the following research question is formulated:

What lessons can be learned from the engineering & design phase[1] of construction projects in Saudi Arabia in order to assess Integral Project Management within the wider cultural context in which it is applied?

Literature study

The first key element in the literature study provides insight in the current state of project management methodologies. It can be observed that only a methodology does not guarantee project success rather it one should seek a balance between the method and the people. One way to do so is considering the Integral Project Management (IPM) as it is practiced within RWS in the public projects. *IPM is a hybrid form of project management which is emerged as a collaboration concept for project organization and knows a uniform way of organizing projects i.e. it means a standardized integrated project approach to accomplishing tasks with lifecycle thinking. An IPM project team consists of five key role players; project manager, manager control, contract manager, stakeholder manager and the technical manager.* The added value of IPM is twofold: it creates uniformity in the project organization and aligns tasks with roles which results in clear deviation of tasks and roles. But IPM is also valuable for risk oriented projects because all domains have risks which are debated through dialogue. This way the integral character of the concept is guaranteed. However, the objective of this research was to explore IPM in context of international projects, therefore cultural boundaries are studied. The outcome of this chapter addresses that the cultural differences can be huge for instance in case of Saudi Arabia compared to the Netherlands. In addition, it is stated that universalism (approaching other cultures with one's own cultural lens) can lead to misunderstanding and frustration. The literature study resulted in the conceptual framework which exists of three topics: the individual, organizational and cultural aspect. To collect data a qualitative research is conducted.

Practical study

To collect in depth data a qualitative research is conducted with multiple-design and multiple research units. The qualitative research is approached with semi-structured interviews whereby questions are ordered on the conceptual framework topics. For the individual aspect the results led to three sub topics namely; the way project management is performed in the projects, the project organization, task deviations, experience shows that having a bi-cultural colleague into the project team can support certain project management activities such as stakeholder management and finally the competences for sending employee to Saudi projects rely on social skills such as politeness, being indirect, having patient, approaching with respect, not being rude or having rigid view of the reality, and willing to

[1] The core business within RHDHV is on the earlier phase of the project before the realisation such as feasibility studies, design, planning and procurement. Therefore, the focus is set on this phase of the project..

adapt in the environment, being humble, having compassion and being highly flexible. These competences are required to work successfully abroad and in specific in Saudi context. For the second sub topic namely culture aspect the results led to several frustrations (an interpretation) which the interviewees shared in this study. These frustrations are reflected in terms of reactive attitude (in sha Allah culture) client, short span of attention, poor decision making, bureaucratic, different perception, scope changes, loss of face, trust, relationship, status, and the separation of personal and professional intercommunication. It is also observed that clients differ in their approach, thus not only the cultural differences form a barrier for the business but also the organizational structure can make the difference. The organizational aspects show that the corporation and in specific the infrastructure department lacks international experience which is defined in how the organization deals with facilitation, organization of the projects etc. Furthermore, the results show that these cases are executed very pragmatically (no uniformity in project organization) and that most of the staff members did not had any international experience and most important were confronting different standards[2] and linguistically limited in their communication.

Conclusion

Based on these lessons drawing, the sub conclusions of the literature study and the case study results and keeping the scope and limitations in mind, it can be concluded that Integral Project Management as it is applied within the public project in the Netherlands, in its strictest form cannot be applied by private (international) organizations such as RHDHV. A main reason is that IPM is a product developed by the public organization for public projects and the corporates culture is rooted in IPM. In addition, it is observed that IPM should be considered as an organizations philosophy which makes it hard to implement the fundamentals in other organizations and in particular private organizations. Thus corporate culture forms a barrier for implementation. In consideration of international projects it can be concluded that cultural differences cannot be neglected to freely implement the idea behind the concept of IPM elsewhere and especially not with international projects in countries which shows huge differences.

However, IPM has also a universal element which is not corporate related and are the different domains i.e. environment, technical, contract, project management and project control. No matter what cultural context is considered these five disciplines are present everywhere and are thus not culturally dependent. Acknowledging these areas can support international project-based organizations to organize projects in a uniform way and creates efficiency in resource management. It would also contribute as a clear and transparent approach towards project management. A notable remark here is that it should be recognized that those different disciplines are universal but does not mean that its interpretation can be different. For instance, contract management in the Netherlands made a transition towards integrated contracts while in Saudi Arabia it is often preferred to have oral agreements or on Lump sum basis. Another example on stakeholder management is that within the Dutch public projects the role of stakeholder manager is more than only collecting data from stakeholders, the whole environment which also includes public participation. Thus, there is possibility of implement IPM but that would be a light version of IPM which is modified and adapted to the local environment, the same as how Mac Donald's adapts its burgers in the cultural context. This light version of IPM thus only depicts the different disciplines which are of paramount importance to always consider regardless the cultural context.

Recommendation for RHDHV

A first step towards professionalization of the project management discipline is to acknowledge the different domains of IPM. Project management should be in balance with the technical performance. This means that the organization should develop those different fields. Development can be in terms of hiring or educating managers towards those different fields. It is too often the case that staff members grow and develop as project manager. From line management this can be regulated and managers can

[2] In Saudi Arabia clients often hire British/American consultants or professors to assess the work done by RHDHV. Those consultants are in charge of the review team and thus are compel the technical staff of RHDHV to adapt to other standards than they are used to and above all they also have to learn the other way of reporting.

ask to develop in the one of that field because at the end one cannot have only project managers in the organization. Simultaneously, it is crucial to seek alignment from those roles (responsible) with the different tasks of project management. This way it can be avoided that roles and tasks are combined and miscommunication can arise. In all those steps the role of line manager is crucial and should have a central role in case of project resource management.

Recommendation for broader context

In this study RHDHV is taken as a case while the outcome of this study could be used in the broader range of project-based organizations because any organization whereby projects are the core business can and should manage it on a more efficient manner. First of all it is recommended to consider the universal backbone of IPM which is the different disciplines. Secondly, it is recommended to consider the corporates culture of RWS in comparison to one's own corporate culture in order to acknowledge the differences and be able to know if and in what extent IPM can be applied.

Recommendation for further research

First of all, a comparison in organizational culture between RWS and (any) project-based organization could provide further insight on possibilities to adapt other success factors such as equality of the roles. Secondly, a further study with more cases and especially cases from Aviation and Maritime departments because these Business Lines operate in Saudi Arabia for a longer period of time. Third, further study is needed on how IPM project teams work i.e. project team culture of IPM. Finally, further research is needed for the development of the conceptual framework: Research unit culture can also be defined in corporate culture. In addition, research unit organization should be elaborated on HRM processes specifically.

Samenvatting

Introductie

Infrastructurele projecten zijn de laatste jaren complexer geworden in verschillende domainen: zoals de omgeving met onder andere veeleisende stakeholders en publieke participatie, technische mogelijkheden, samenwerking tussen opdrachtgever en opdrachtnemer onder geïntegreerde contractvormen, en het beheersen van de projecten. (Inter)nationale project gebaseerde organisaties hebben als doel om de project organisatie te optimaliseren en het project management discipline te professionaliseren. Tegelijkertijd, hebben deze (inter)nationale project gebaseerde organisaties moeite om internationale projecten te managen omdat het huidige project management niet voldoet aan de vandaag complexe infrastructurele projecten vandaar dan ook is het probleem als volgt omschreven in dit onderzoek: *Op welke wijze kan het Integraal Project Management (IPM) bijdragen op het efficiënter organiseren en uitvoeren van internationale projecten voor project gebaseerde organisaties?* Het doel van dit onderzoek is als volgt geformuleerd: *Het verkennen van projecten in Saoedi Arabië welk leidt tot nieuwe inzichten op het vlak van project organisatie en management om in staat te zijn iets te kunnen zeggen over de toepassing van het Integraal Project Management in de culturele context van Saoedi Arabië*. Vanuit het doel en de probleemomschrijving is de volgende onderzoeksvraag vastgesteld:

Welke lessen kan men trekken uit de infrastructurele projecten in Saoedi Arabië in de engineering en ontwerpfase om daarmee iets te kunnen zeggen over de toepassing van Integraal Project Management in het breed cultureel spectrum waarin dit is toegepast?

Literatuurstudie

Het eerste onderdeel in de literatuurstudie verschaft inzichten in de huidige staat van project management methodes. Het is duidelijk dat alleen een methode niet het succes garandeert van een project maar eerder het succes gezocht moet worden in de balans tussen de methode en de mensen. Dat kan door een benadering te zoeken in het IPM concept zoals dat wordt uitgeoefend binnen de publieke organisaties zoals RWS. *IPM is een hybride vorm van project management welk is ontstaan als samenwerkingsmodel voor project organisatie en onderkent een uniforme manier van project organiseren m.a.w. een geanodiseerde, integraal project benadering tot het vervullen van taken en activiteiten met levenscyclus denken*. De toegevoegde waarde van IPM is tweezijdig: het uniformeert project organisatie en belegd op een gestandaardiseerde wijze taken met rollen (verantwoordelijken) welk resulteert in een heldere verdeling van taken en rollen. Echter is IPM meer dan alleen uniformeren en standaardiseren, risico gestuurde projecten worden integraal benaderd vanuit alle disciplines doormiddel dialoog. Gezien het doel van dit onderzoek namelijk het onderzoeken van IPM in de internationale context, is hierbij getracht om te kijken naar de mogelijke gevolgen van de culturele verschillen op de IPM rollen. In het hoofdstuk is bijvoorbeeld aangetoond doormiddel van deskresearch dat de culturele verschillen enorm zijn tussen Saoedi Arabië en Nederland. Daarbovenop, komt de term universalisme om de hoek kijken. Universalisme is de benadering van andere culturen met de eigen culturele lens (normen en standaarden) welk kan leiden tot frustraties en misinterpretaties. Uit de literatuurstudie zijn uiteindelijk drie thema's uitgekomen waarop de focus nader wordt gelegd doormiddel van een case studie oftewel een kwalitatieve onderzoek. De drie thema's zijn: individuele, organisatorische en culturele niveau.

Praktische studie

Een kwalitatief onderzoek dient er om in diepte onderzoek data boven tafel te krijgen. In dit onderzoek is gekozen voor een multi-design en multi-onderzoekseenheden. De data is verzameld doormiddel van een semigestructureerd interviews af te nemen welk zijn geordend op de vooraf gestelde thema's. Voor de individuele aspect hebben de resultaten geleidt tot drie sub thema's namelijk; de manier hoe project management ingebed is in deze projecten, de project organisatie, taak verdeling, belang van een bi-culturele collega, en de competenties die nodig zijn om projecten in het buitenland en in het specifiek Saoedi Arabië tot een succes te brengen. Deze competenties zijn veelal sociale skills zoals beleefd zijn, indirect communiceren, geduld tonen, benaderen van de klant op een respectvolle wijze, bereid zijn

om jezelf aan te passen aan de omgeving en cultuur, nederig zijn, compassie tonen, en heel erg flexibele omgang hebben. Voor het tweede thema namelijk culturele aspect zijn de resultaten frustrerend te noemen. De culturele implicaties zijn te kenmerken als; reactieve houding klant ("elke keer zeggen ze in sha Allah als iets geregeld moet worden maar dan komt het er niet van"), klanten hebben weinig interesse in de inhoudelijke zaken en daardoor kunnen vergaderingen vaak niet lang duren om de inhoud bespreekbaar te maken, bureaucratisch, andere verwachting, ontwerp wijzigingen, gezichtsverlies, vertrouwen, relatie, status, en de scheiding tussen persoonlijk en professionele omgang. De organisatorische aspect en tevens de laatste aspect waarop de respondenten zijn bevraagd leidde tot het feit dat de organisatorische keuzes om internationaal werken te doen averechts werken. De hiervoor genoemde culturele verschillen zijn enorm tussen Nederland en Saoedi Arabië. Dit kan overbrugd worden door bijvoorbeeld lokaal mensen aan te nemen of mensen in het team te betrekken met Arabische achtergrond. De organisatie aspect laat zien dat de vanuit het line management/HRM weinig tot geen ervaring is ingegeven als het gaat om internationale werken welk gedefinieerd kan worden als hoe de organisatie omgaat met de organisatie van de projecten, facilitering enz. Tot slot, de resultaten geven aan dat de projecten op een ad hoc wijze (geen uniformiteit in de projectorganisatie) uitgevoerd worden en dat de meeste werknemers geen internationale ervaring hebben. Daarnaast ook nog eens geconfronteerd worden met verschillende standaarden en taalkundige barrières.

Conclusie

Rekening houdend met de uitkomsten van de sub conclusies, de literatuurstudie, de case studie resultaten en lessen uit de projecten in Saoedi Arabië kan geconcludeerd worden dat het Integraal Project Management concept zoals het toegepast is binnen de publieke sector in Nederland, in zijn striktste vorm niet geïmplementeerd kan worden door andere private internationaal project gebaseerde organisaties zoals RHDHV. Een belangrijke reden hiervoor is dat IPM een product ontwikkelt door de publieke organisatie RWS voor publieke projecten en dat betekent dan ook dat IPM op maat gemaakte oplossing is voor publieke organisatie om projecten te kunnen beheersen. Hiermee is dus ook het bedrijfscultuur deels ingebakken in de methode. Gaandeweg het onderzoek is ook geconcludeerd dat IPM een filosofie beslaat dat gegeven is door de organisatie zoals onder andere het voeren van dialoog en het integraal afwegen van tegenstrijdige belangen. Daarmee is het lastig om het IPM één op één door te voeren in andere organisaties. In beschouwing op internationale projecten kan geconcludeerd worden dat de culturele implicaties (en daarmee de verschillen) een Westerse manier van werken onmogelijk maakt in een context dat veel meer heeft van sociale processen en flexibele werk methodes zoals Saoedi Arabië.

Echter zijn de verschillende domainen binnen het IPM niet bedrijfsafhankelijk dus ongeacht de culturele context kunnen deze gebieden aandacht geschonken worden. Het erkennen van deze vijf gebieden kan de internationale project gebaseerde organisaties ondersteunen in het inrichten van projecten op een uniforme en gestandaardiseerde wijze welk leidt tot efficiency van bemensing. Het tevens een duidelijke en heldere manier van het structureren van project management activiteiten welk duidelijkheid biedt in de internationale projecten. Wel een punt van opmerking is dat de verschillende gebieden anders geïnterpreteerd kunnen worden. Bijvoorbeeld, contract management in Nederland zijn we een stap verder met geïntegreerde contractvormen terwijl in Saoedi Arabië, samenwerking vaak mondeling afgesproken wordt of op basis van offerte contracten. Verder is bijvoorbeeld omgevingsmanagement een bredere invulling (publieksparticipatie en conditionering) van de rol dan in vergelijking wat in Saoedi verstaan wordt onder omgevingsmanagement namelijk puur en alleen stakeholder management. Dus er is een mogelijkheid om IPM deels wel over te nemen welk aangeduid kan worden als een lichte versie van IPM welk aangepast is aan de organisatie en de lokale entiteit. Hetzelfde zoals Mac Donald's zijn recept van burgers steeds aanpast aan de lokale smaak.

Recommandatie voor RHDHV

Een eerste stap richting het professionaliseren van project management als vakgebied is het erkennen van de verschillende vakgebieden. Project management als vak moet in balans staan met de technische invulling van de projecten. Dus ontwikkeling van de verschillende vakgebieden is een aanbeveling richting RHDHV. Ontwikkeling kan duiden op het ontwikkelen van leerpaden en trainingen om mensen

op te leiden in die verschillende disciplines van IPM want immers een organisatie kan niet alleen project managers aan boord hebben. Voor de ontwikkeling is een belangrijke taak weggelegd voor de lijnmanagement. Zij zijn de belangrijkste schakels voor de implementatie van deze lichte versie van IPM. Tegelijkertijd, de verankering van taken en rollen is cruciaal om roloverlappen en taakbundeling te voorkomen.

Recommandatie voor bredere context

In dit onderzoek is RHDHV een casus geweest terwijl de uitkomsten breder toepasbaar zijn in de context van project gebaseerde organisaties omdat elk organisatie waarbij de projecten centraal staan (main business) zouden moeten streven naar een betere manier voor het beheersen en managen van de projecten. Als eerst kan geadviseerd worden om die vijf gebieden in acht te nemen als men project management in kaart wil zetten binnen de organisatie, dat gekenmerkt wordt door techneuten organisatie. Ten tweede, is het raadzaam om de bedrijfscultuur van RWS in acht te nemen in vergelijking met eigen bedrijfscultuur om bewust te zijn van de verschillen en daarmee te weten in hoeverre IPM toepasbaar is voor de eigen organisatie.

Recommandatie voor verder onderzoek

Het is eerder opgemerkt dat IPM een bedrijfsmethode is welk alleen binnen publieke organisatie wordt uitgeoefend. Daarom is het raadzaam om ten eerste een vergelijkingsstudie uit te voeren in wat werkelijk publieke organisatie onderscheid met private organisatie om daarmee andere succes factoren zoals de gelijkwaardigheid van de rollen binnen IPM over te kunnen nemen. Ten tweede, is in dit onderzoek andere Business Lines zoals Aviation en Maritime niet betrokken terwijl zij al langer actief zijn in Saoedi Arabië. Inzichten uit hun werkveld kan verder resulteren in lessen die bijdragen aan verbetering van internationale projecten. Tot slot, verder onderzoek is nodig voor de ontwikkeling van het conceptueel framework zoals dat in hoofdstuk 5 is opgezet. Onderzoekseenheid cultuur kan verder uitgebreid worden met organisatie cultuur. Onderzoekseenheid organisatie kan nog toegespitst worden op de HRM processen en hoe zij de ervaring borgen met buitenlandse projecten.

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Part I: Introduction

Chapter 1: *Introduction & research design*

1

Introduction

In this introductory chapter a better insight is given into the background and problem that this thesis aims to address, as well as into the research approach that has been utilized to collect the data. Out of the problem formulation the research objective is formulated and in line with the research objective the research question is pinned. After knowing the direction of the research question, a research design and strategy is chosen to conduct the research. In figure 1.1 the sequence of sub chapters are highlighted.

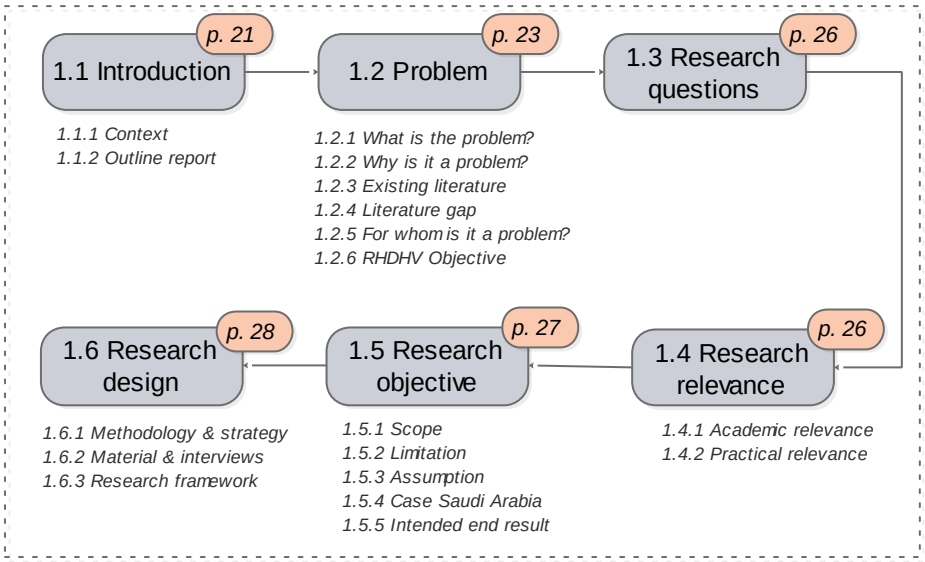


Figure 1-1: Overview chapter 1

1.1 Introduction to the subject

1.1.1 Research context

As human beings we are surrounded by infrastructural works such as roads, cycle paths, railways, bridges, tunnels and airports to name a few. Those infrastructural works are delivered objects/systems which are constructed through a temporary project with a clear start and end. In the last decade these infrastructural projects have become complex. To manage those complex projects management methodologies are served to control those processes (Kerzner, 2010). Project Management has grown from the early initiatives in the U.S. defence/aerospace sectors in the late 1950s and 1960s into a core competency that is recognized widely across most industry sectors (Charvat, 2003, p. 35). We observe projects all around us; the entire infrastructure system consists of completed projects. Project Management is related to projects as it provides a number of known tools and techniques that are aimed at controlling the project in order to achieve the project's objectives. Today's infrastructural projects (systems) are characterized by its complexity which is defined by the environmental (demanding stakeholders & high numbers of stakeholders), technical, contractual (new forms of collaboration between client and contractor), control (cost overruns) and overall project management of the interrelated sub systems of an infrastructure system. Projects are a temporary endeavour which forms the greater constellation of an organization (Hill, 2010). As for project-based organizations those projects form the core business. Due to the complexity of the infrastructural projects, project-based organizations strive to professionalize their project management methodologies to maintain delivery of project performance. Despite all best practices, knowledge, competences and methodologies, project performance is hardly improved and project still fail (Priemus, Bosch-Rekveldt, & Giezen, 2013; Williams, 2005). In the last decade many literature depict the essence of the human side of project management. It is believed that project success does not only depend on the processes and systems within project management but rather it is the people who deliver projects (Cooke-Davies, 2002, p. 189). To meet that perspective, the Dutch authority for water and highway has acknowledged the importance of human side and introduced the Integral Project Management (IPM) in their organization as which is the way to organize and execute projects.

1.1.2 Report outline

This chapter of the report is the first part which starts with the conceptualization of the research wherein the problem analysis, objective, and research questions will be dealt. The next chapters are constructed in three parts. The second part unfolds the literature study which consists of chapter 2, 3, and 4 including the conceptual framework chapter 5. These chapters deal with the theoretical implication of the research. Each chapter includes a central question which is answered at the sub conclusion part at the end of each chapter. The second part is the practical study. This part consists of chapter 6, 7, and 8. Chapter 6 gives an overview of decisions and background information on the theoretical basis of the method, brief case introduction of the researched cases and outcome of the confidential documents. Afterwards in chapter 7 the case study results are presented and in chapter 8 the analysis are revealed. Finally, the third and last part which is chapter 9 concludes this thesis and provides recommendation.

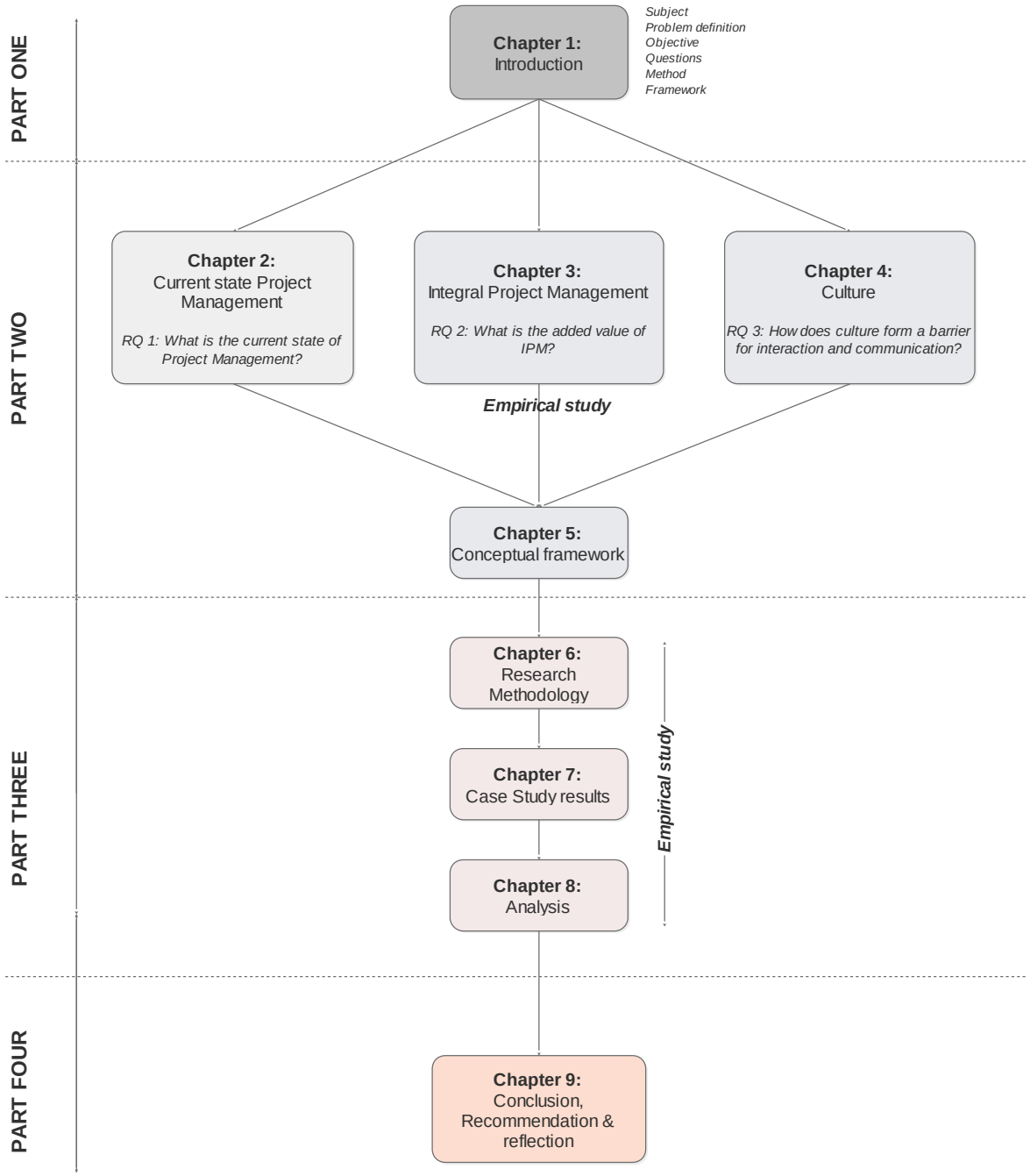


Figure 1-2: Report overview

1.2 Problem formulation

1.2.1 What is the problem?

In the earlier years, an organization's technical methodologies were expected to fulfil project management process needs. They often fell short of applying what we know today as "professional project management" concepts and practices. This is because the technical methodologies that were used to achieve desired levels of excellence in technical products and services still had a technical focus and did not particularly address all of the essential activities of project management (Hill, 2010, p. xix). According to Nicolas & Steyn the nature of projects and the environment have changed. Many modern projects involve great technical complexity, and require a wide diversity of skills. Managers are faced with the problem of putting together and directing large temporary organizations while being subjected to constrained resources, limited time, and environmental uncertainty. Nicolas & Steyn point out that through coping with complexity and uncertainty; new forms of project organization and management have evolved. Koskela & Howell (2002) identified a body of theory which describes project management and discuss that project management as practiced today rests on an implicit and narrow theory that must be developed, extended and enriched. Other authors have expressed their concern regarding outdated project management. According to Morris (1997) the real change is the increasing recognition that the simple "on time", in budget, to specification" view of project management insufficient. Furthermore, Koskela and Howell (2002) conclude that traditional project management in today's big, complex and speedy projects is simply counterproductive; it creates self-inflicted problems that seriously undermine performance. Therefore, in today's global market, companies regardless of industry and size are looking to improve their systems and processes to become more competitive. One way they are attempting to do this is by establishing project management as a core competence throughout their organization. By setting up standardized procedures within the company, they hope to learn from past mistakes by making processes more efficient, and develop people's skills and talent to work more effectively (Bolles, 2002).

The recognition and acknowledgement of project management as a professional discipline is considered by the Dutch Authority of Water and Highway (RWS). Within the organization the concept of Integral Project Management (IPM) is rooted. In a glance, IPM identifies that project management is a discipline with five work fields which are as follows; project, environment, technical, contract and control with each an identified manager. These process roles steer their team of experts, advisors and technical staff. The matter at hand is that very little is known about this concept because it is developed within the organization of RWS.

Simultaneously, globalization has led to growing numbers of international contacts, which lay bare differences in negotiation, management and decision-making styles in different countries/regions in the world. In an era where trade, problem-solving and decision-making in public/private sectors are becoming increasingly international, the risks of miscommunication in professional contacts and their negative consequences can be dramatic (Steger, 2003). People coming from different countries have been framed by divergent cultural and administrative biases and fail to understand the influence this has on their actions.

Problem statement: Project-based organizations are facing difficulties to manage (inter)national projects. Today's infrastructural projects are characterized as complex in different domains of project management. As traditional project management do not comply with today's complex infrastructural projects, how can integral project management contribute towards project-based organizations to efficiently organize and execute (inter)national projects?

1.2.2 Why is it a problem?

Project-based organizations with a focus on construction industry, grew over the years, whereby much focus was paid to technical know-how instead of project management whereas today's infrastructure projects have become complex in any sense from compact environments and demanding stakeholders to different forms of collaboration, and project control to the technical know-how. Obviously, this has

an enormous impact on the golden triangle so to say the budget, planning and quality because for the client not only the end result has become essential but in fact the processes in which contractors approach projects. Therefore, project management discipline is in development and over the last decade has enormous attention. Besides, technical engineers are naturally introverted in personality. Growing in the profession project management as engineer means at the same time further development of soft skills. However, the organization lacks the insight in how to train employees in order to facilitate the project at soft factors such as collaboration, communication, and negotiation. Finally, the impact is worse when engineers grow into the project management discipline e.g. as project manager in international projects. Especially in socially committed societies it is important to have a team not only existing of engineers but also from managers who are aware that not only the technical solution is important for the clients but also the whole process of communication, informing, negotiation, and relationship.

1.2.3 *Prior literature: 'What do we know about the problem?'*

Ridder (2013) addresses in his essay that the environment is in a rapid change which is powered by technology. The dynamic environment which is defined by demanding stakeholders, different forms of collaboration and evolving risks asks for a different approach to manage those risky projects. Only the methodology will not help to execute projects with high performance. For example, project as the North-South line and gas drilling projects in the North East of the Netherlands has led to public participation and impact of the environment on the projects. The public client Rijkswaterstaat (RWS) has changed their approach to the environment by introducing Integral Project Management whereby all disciplines within project management are considered integrally which has a focus on collaboration between the disciplines but most important has an external orientation towards the environment (Wermer, 2015a). These different approaches led to a higher focus on soft factors. Besides, the need for the soft side of project management and thus the human side in infrastructure projects has also got attention in the literature (Lechler, 1998; Cooke-Davies, 2002; Turner, 2003; Turner & Muller, 2005; Morris & Pinto, 2007; Jacobs et al., 2012; Flos, 2014; Stewart, 2014; Sridhara & Sreenivas, 2014; Reinking, 2015). Simoultaneously, globalization has led to international contacts (Steger, 2003). Due to the internationalisation Western managers collide into cultural differences. There are different studies done on the cultural differences between nations (Hofstede, 2010; Meyer, 2014).

1.2.4 Problem statement/gap: *'What do we not know about the problem?'*

Project-based organizations are facing difficulties to manage (inter)national projects. Today's infrastructural projects are characterized as complex in different domains of project management. As traditional project management do not comply with today's complex infrastructural projects, how can integral project management contribute towards project-based organizations to efficiently organize and execute (inter)national projects?

1.2.5 For whom is it a problem?

The problem sketched in this chapter is in general terms an interest for international project-based organizations who have a focus on the construction industry and wants to apply the IPM concept as their core business for project management.

1.2.6 RHDHV objective

In this research Royal HaskoningDHV (RHDHV) serves as a case for the problem which means that the research project is done in collaboration with RHDHV.

Royal Haskoning was founded[3] in 1881, making it the oldest consulting firm in the country. In 2012 Royal Haskoning and DHV, also one of the oldest engineering firms in the Netherlands merged. RHDHV is an independent, international engineering and project management consultancy with over 135 years of experience in the field of sustainable interaction between people and their environment in the field of Industrial Processes, Spatial Development, Infrastructure & Transport, Architecture & Construction, Installation Technology, Environment, Water, Coastal & Rivers and Martime. RHDHV is involved in

[3] https://www.royalhaskoningdhv.com/en-gb/innovation/world-heritage-day/a-journey-through-our-engineering-heritage [visited on 23th of June 2016]

more than 135 countries all over the world with roots in the Netherlands, United Kingdom and South Africa but also involved in the Middle-Eastern market. Some of projects in which RHDHV is involved are: Riyadh Traffic Management Study, First Middle East immersed tunnel part of Sharq Crossing in Doha, City Planning and Engineering of economic cities in Saudi Arabia, new International Airport for Mexico City, and improvement of Road junctions in Jeddah. Specifically in Saudi Arabia, aviation is present for more than 50 years, Maritime for more than a decade as well as Traffic and Urban & Development is present for at least 3 years now and infrastructure for just 2 years. The organizational structure of RHDHV is illustrated in figure 1.3.

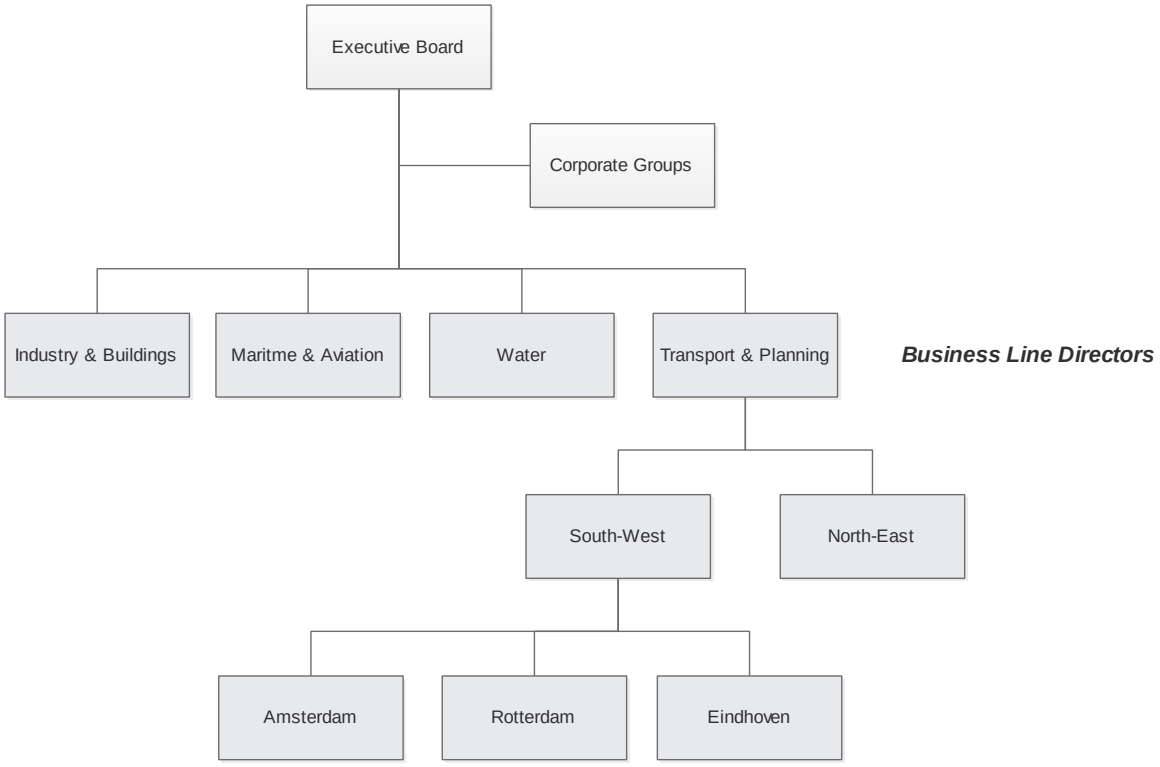


Figure 1-3: Organizational structure RHDHV with four layer management

The executive board of RHDHV realize that project management discipline should be improved in both domestic as well as international infrastructure projects. Therefore the question is raised within the Advisory Group of Amsterdam if IPM can enhance the traditional (pragmatic and ad hoc) way of project organization and if project management discipline can be professionalized. The assignment for this thesis emerged within the Advisory Group of Amsterdam. The Head of Advisory Group is also a member of the Knowledge Group Project Management (KG-PM) which is an organizational broad platform for knowledge sharing and research. The group within the KG-PM consists of project managers, line managers and experts from different fields. Many project management related subjects are dealt with in this group. Thus, RHDHV's objective for this study can be formulated as follows:

> *RHDHV aims to improve the internal project organization for (inter)national projects by considering the Integral Project Management concept as it is practiced within RWS and also wants to explore the value of the IPM concept in international projects.*

1.3 Research questions

To reach the objectives of this research a main research question is formulated that will be answered at the end part of this report. The main research question is stated as follows:

What lessons can be learned from the engineering & design phase[4] of construction projects in Saudi Arabia in order to assess Integral Project Management within the wider cultural context in which it is applied?

To structure the research project and help to answer the main research question, a number of sub questions are composed. The methodology which is used to answer these questions will be discussed in the following section. Each sub question is again divided into several questions.

i. What is the current state of Project Management discipline within international project-based organizations in the infrastructure industry?
   a. What is project and what is project management?
   b. What is project methodology?
   c. Why is human factor important in project management?

ii. What is the added value of IPM to international project-based organizations in the construction industry?
   a. What is IPM?
   b. Why is IPM needed?
   c. How is IPM embedded in project based organizations?

iii. If international projects are considered, how does culture form a barrier for interaction and communication for IPM role keepers and what specific competences are required?
   a. What is culture?
   b. What are the cultural differences between the Netherlands and Saudi Arabia?

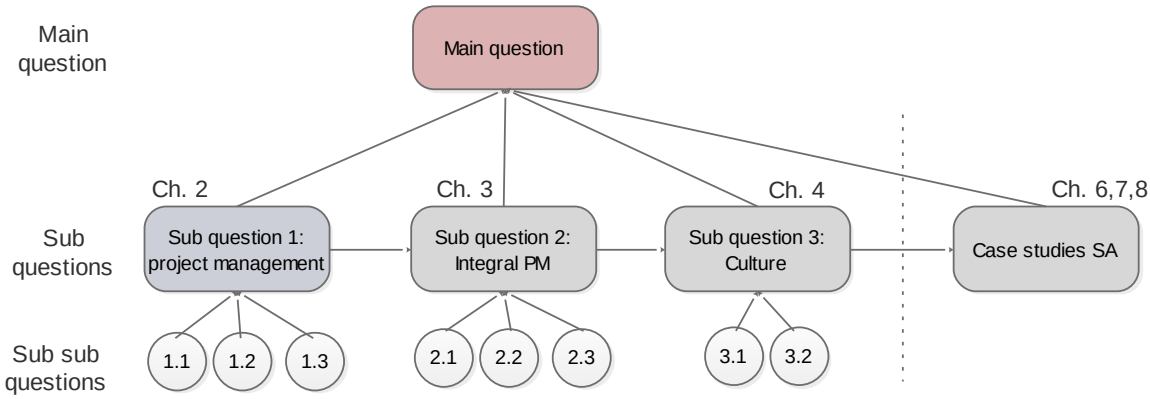


Figure 1-4: Overview research questions

1.4 Relevance of the research

1.4.1 Academic relevance

From the prelimanary study on IPM it is observed that there is currently limited literature on the concept of IPM which has no academic background. This shows that there is a gap in scientific knowledge on this topic. Research into the concept of Integral Project Management within project-based organization provides new insights in how it can help organizations to control their

[4] The core business within RHDHV is on the earlier phase of the project before the realisation such as feasibility studies, design, planning and procurement. Therefore, the focus is set on this phase of the project..

(inter)national projects. The academic relevance is the derived conceptual framework which is used as a blueprint for the practical study. In addition, this research will conclude with recommendations for further research, which can eventually lead to other scientific research and knowledge on this topic.

1.4.2 Practical relevance

The practical relevance of this research is to provide knowledge on the concept of IPM, as it is practiced today in public projects, for project-based organizations in the infrastructure sector. As it is observed that organizing according to IPM can enhance the project organization and is a first step towards the professionalization of the current project management. This thesis can contribute to, for example, international project-based organizations that have this research at their disposal. Furthermore, the cultural part of this research contributes to a better understanding and emphasis on how culture impacts the business. Considering the research units, this research contributes to organizations, to better manage projects abroad.

1.5 Research objective

The objective of this research is twofold. First it is relevant to explore what IPM has brought to the Dutch public projects? And secondly it is part of the study to explore how RHDHV executes their projects abroad and in this case in Saudi Arabia in order to assess if Integral Project Management as it is applied within the public projects in the Netherlands has a mean to it and what adjustments are needed to make it cultural proof? Thus the research objective can be formulated as follows:

> *The research objective of this research is first to explore Integral Project Management concept as it is practiced within RWS in infrastructural (GWW) sector and secondly this research aims to explore the project management processes and in particular the project organization and cultural implications in Saudi Arabian context in order to assess if the concept of IPM has added value for the improvement of project organization for the international projects.*

1.5.1 Scope

It might be clear that the full development of IPM within RWS has taken more than a decade. It would be impossible to research the whole IPM for the construction industry. Some boundaries are set in order to keep this research manageable:

- Organizational culture between RWS and RHDHV is not taken into account;
- IPM team culture is not the focus of the research.
- Focus is set on the design phase of projects because this is the core business for RHDHV.

1.5.2 Limitation

As for the objective of this research, it means that the researcher must be allowed not only to learn and study those being studied but also study the context and environment in which those beings are studied i.e. visiting the country and studying the environment via interviews, conversations, and observations one can have stronger interpretation on the collected data. As for this study this was limited. This means for the results that only employees are interviewed who have visited Saudi Arabia and done projects with the local clients. Moreover, this also means that there might be a higher chance of bias in the data due to the fact that interviewees can have their personal view or prejudgment on particular culture, on Arab clients, projects and Muslims in general. Therefore, analysis of the data asks a strong interpretation, imagination and independent background position. To minimize the impact of the limitation, in this research also interviewees are involved who have an Arabic background or at least have a bi-cultural background.

Furthermore, it was practically impossible to find interviewees who have both knowledge on IPM and at the same time been part of projects in Saudi Arabia. As it is observed during the first round meetings, is that most of the interviewees admit to know what IPM is about but the opinions differ widely. Therefore, to minimize bias, the first round interviews will contain a short introduction on IPM.

Finally, it is also noteworthy to mention that the actual use of IPM within the RHDHV organization take place pragmatically. RHDHV recognizes IPM, but does not acknowledge some domains of IPM as a core

discipline such as project control. With that in mind this research focuses on the projects abroad which means that the assumption is made that the actual use of IPM within the Dutch projects has already taken place.

1.5.3 Assumptions

RWS is one the main clients for RHDHV. RHDHV executes projects and deploys technicians and managers regularly to RWS. While RWS is restructured for the past decade according to IPM domains this has impact on how RHDHV approaches their clients. The Knowledge Group Project Management (KG-PM) also explores the possibilities for new organizational structures to manage their projects to develop and enhance the internal project organization. It is assumed that projects do not only fail because of factors related to the triple constrain (time, budget, quality) but it is also strongly related to how projects are organized and facilitated. Therefore, the KG-PM aims to research possibilities to implement IPM in its adjusted form to our organization. This has been said, the focus of the organization is set to the international projects i.e. improve profits. Therefore, in this research it is assumed that the actual implementation of IPM within the organization is passé. It is noteworthy to mention that the development of IPM is done within RWS as an organization based on Rhineland culture and functional organizational structure where line manager has a central role while RHDHV has an Anglo-Saxon culture with project based organizational structure whereby the line management has side role.

1.5.4 Why Saudi Arabia as a case study?

As it is aforementioned in the research objective, this study does not aim to set IPM as a solution for Project Management efficiency for a particular country rather it is aimed to enhance projects abroad in general. However to conduct a research within a short span of time, it is chosen to take Saudi Arabia as a case study. Besides, the Decathlon event where all managers gather to share experiences and lessons learned on the subject of cultural issues in Saudi Arabia attracted the attention. Nevertheless, Saudi Arabia is an engine country which means that it is listed as a country with potential future projects.

1.5.5 Intended end result

This research aims to explore the practices in Saudi Arabia in order to evaluate the Integral Project Management in the cultural context of Saudi Araba. Thus the intended end result exists of recommendations. in terms of how IPM could help the organization to organize projects in an efficient way, to any project-based organization who wants to manage risk oriented projects abroad and in specific in Saudi Arabia. The recommendations are in specific meant to the RHDHV organization because the cases are delivered by RHDHV. Due to the fact that the researcher is involved several times during observations rounds with the Knowledge Group Project Management (KG-PM), the advice and recommendations also have added value for them. The results will be presented both in Advisory Group in Amsterdam as well as in the KG-PM.

1.6 Research design

In order to adequately answer the research questions and reach the objective, a conceptual framework is designed according to the outcome of the literature study. The conceptual framework did not exist beforehand to be able to answer appropriately the research question. To collect data on the research units from the conceptual framework a research design is framed. Since the main goal of this research is to explore IPM and lessons learned from Saudi Arabian construction projects, different strategies are conducted. However, designing and carrying out a research project is a complex activity therefore to ensure a smooth operation, the guidelines described in the book “Designing a research project” from Verschuren & Doorewaard (2010) is mainly held. According to Verschuren & Doorewaard designing a research project involves the conceptual design and the technical design (2010, p. 16). The former determines everything that the researcher aims to achieve i.e. the research objective, framework, research questions etc., while the latter concerns how to realize them i.e. what research method is used e.g. qualitative or quantitaive? what is the research strategy? How is material or data collected? What research instruments are used? how is the research constructed? Etc. Furthermore, it is relevant to mention the nature of the research project. This research is a practice-oriented research. A practice-oriented research is meant to provide knowledge and information that can contribute to a successful

intervention[5] in order to change an existing situation (Verschuren & Doorewaard, 2010, p. 45). Another aspect which should be taken into account is that the research impossibly can solve a matter in its full entirety. Research is a tool for creating valid knowledge. On basis of this knowledge one could make decisions in order to change a situation. In the previous sections the conceptual design was extensively elaborated. In next sub sections the technical design will be discussed.

1.6.1 Research methodology & strategy

The research units from the conceptual framework require in depth research therefore the nature of this research is qualitative. Qualitative research is to a large extend interpretative inductive. Instead of quantifying facts and numbers, it is about exploring the why and how question (Patton, 2002). "Qualitative research is not simply learning about a topic, but also learning what is important to those being studied" (Rubin & Rubin, 2005, p. 15). Document analysis, observation and case studies are types of tools to do qualitative research. The research objective asks for an in depth research. Thus the type of the research is empirical. The research strategy that best fits this research is a comparative case study whereby a semi-grounded theory is used to code the data. A semi-grounded theory implies both inductive as well as deductive approach. The case study is defined as a multiple-case design and is embedded with multiple units of analysis (Yin, 2009).

1.6.2 Research material & interviews

The data were collected in semi-structured, in depth interviews. See table 1.1 for an overview. For the empirical data an interview protocol is setup (agenda and script). The former ensures that the interviewee is prepared for the interview and is aware of the questions. The latter is intended for the interviewer to follow a rough line in the interviews in order to eliminate bias output. For IPM interviews it was discovered that for the last decade of development limited literature was found and almost none of which was written.

For qualitative research, the most employed tool for collecting information is interviews (Rubin & Rubin, 2005). Open interview questions based on the purpose of the study allowed interviewees to talk about their experience. Within semi-structured interviews the questions are pre-planned prior to the interview but the interviewer gives the interviewee the chance to elaborate and explain particular issues through the use of open-ended questions whereas a structured format may hinder the depth and richness of the responses. Subsequently, a convenient environment is chosen for the interview and the interviewee is given space to feel comfortable and relaxed (Patton, 2002). According to Weiss defining interviewing relationship is the best and sustainable way to interact with the interviewees. For example the interviewer can present himself as the means by which the interviewee can tell his story: "through me you can make your story known." (1994, p. 66). After permission of the participants, the all individual interviews are recorded to ensure that on a later stage all relevant information is considered to draw conclusion and simultaneously it improves the quality of the analysis because the interviews will be transcript[6]. Transcribing data guarantees that the researcher will stay close to the reality of the data and not lose sight into his interpretation during the analysis. In addition, to comfort and encourage the interviewees for opening-up during the interviews, recommendation is followed by several authors such as Patton (2002) and Rubin & Rubin (2005). For example: making use of introductory questions, asking easy questions first, showing empathy, encouraging by carefully listening, and closing while maintaining contact for validation of transcripts and follow-up questions. The interviews taken in this research are illustrated in table 1.1 for both IPM and case study.

[5] An intervention aims at solving a practical problem

[6] **All interviews both on IPM and case study interviews are compiled in a separate map which is attached with this thesis. It is only available for the graduation committee.**

Table 1-1: Interview map

IPM		Case study	
Project knowledge IPM	5	Infrastructure	3
Implementation knowledge	3	Traffic	2
Additional	5	Urban & Development	3
		Additional	5
Total number of interviews IPM	13	Total number of interviews case study	13

1.6.3 Research framework

In order to achieve the research objective, the interrelated steps are visualized in the research framework as it can be seen in figure 1.5. A research framework is a schematic representation of the research objective and includes the appropriate steps that need to be taken in order to achieve it, thus the research framework represents the internal logic of a research project (Verschuren & Doorewaard, 2010, p. 65).

The first part is the literature study. In this part the theoretical background is elaborated and forms the key concepts. The key concepts derived from a prelimanary research and problem analysis. The next part is the practical study, whereas a comparative case study is conducted on basis of the analytical framework. The latter is derived from the literature study. Finally, after analysis of the case study results, conclusions and recommendation is provided as the end part of this research. In this part also the main research question is highlighted and answered. To ensure the reliability of the outcome, the conclusion part is validated by the organization RHDHV.

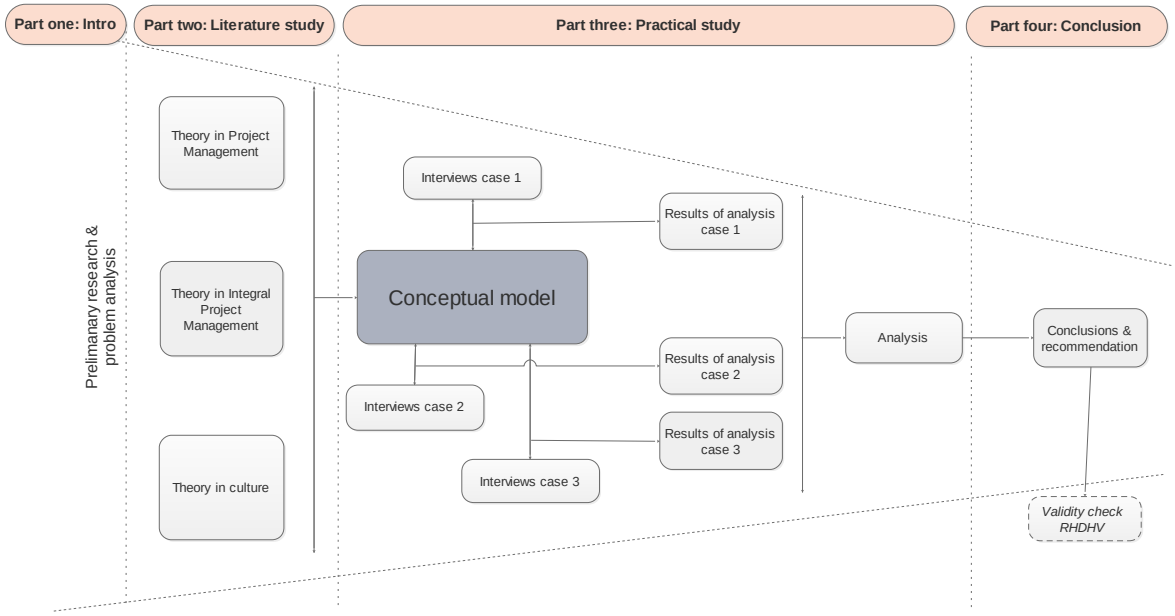


Figure 1-5: Research framework of this research project based on Verschuren & Doorewaard (2010)

Part II: Literature study & Analytical Framework

Chapter 2: *Additional background information*

Chapter 3: *Integral Project Management*

Chapter 4: *Culture*

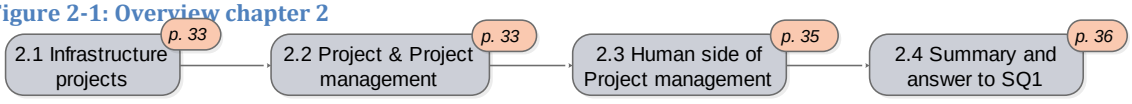
Chapter 5: *Conceptual design*

2

Additional background information

This is the first chapter of the literature study. This chapter aims to address the first sub question ***"What is the current state of Project Management discipline within project-based organizations in the infrastructure industry?"*** *Today's projects are not the same as the past. Projects have become complex and multidisciplinary. It is therefore essential to understand the current state of the discipline. In order to answer this sub question a desk research is conducted.*

Figure 2-1: Overview chapter 2



2.1 An introduction: Infrastructural projects

The construction industry and especially the field of large infrastructure projects have unique characteristics that influence the way projects are done. Infrastructure projects imply the development of complex systems that contradict the standardization of the processes involved in all project stages. The most common projects as it can be observed in the surrounding are public infrastructure projects such as roads, bridges, tunnels, industries, traffic and airports which add value to social life (Winch, 2010).

In whatever actions we take, in our daily activities we are dealing with projects and to succeed in our activities we apply unconscious project management as a tool to control those activities. For example, if one needs to go to grocery is in fact an activity which needs to be planned, budgeted, and certain risks should be taken into account: how long does it take to do the grocery? What amount of budget do I need for it? What resources should I use? Should I go by bike or with the car? What are the risks to be avoided in order not to be delayed or overrun my budget? This example could also be placed in some of the daily activities of a project-based organization with a focus on infrastructural projects. Nevertheless, the activities are from a more complex nature than the given example. The use of project management has become associated with such complex problems, which are inevitably called a project (Munns & Bjeirmi, 1996). In order to distinguish between the project and project management it is necessary to provide distinct definitions for the two terms. This is done in the following section.

2.2 Project and project management

2.2.1 Defining project

Before understanding what project management is about, let's first define what a project is? Project Management Institute provides the following definition for a project:

> *It's a temporary endeavour undertaken to create a unique product, service or result. A project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources.*

And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal (Project Management Institute, 2013, p. 3). Thus, going to grocery would never be the same while the triple constraint namely time, budget and risks are different every time.

2.2.2 Project management

Project management is a well-established discipline. Project Management as we know it today has developed largely in the US defence aerospace industries in the 1950s and 60s, it has slowly been spreading into most areas of business and social life (Morris, Why Project Management does'nt always make business sense, 1998). According to Project Management Institute (PMI);

> *Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management processes fall into five groups: initiating, planning, executing, monitoring and controlling and closing. On the other hand, project management knowledge draws on ten areas: Integration, cost, human resources, stakeholder management, scope, quality, communication, time, procurement and risk management (2013, pp. 5-6).*

Nicolas & Steyn describe Project management as a systems-contingency approach to organization and management; it applies elements of classical and behavioural management and uses organizational forms and management roles best suited to the unique environment of projects (2012).

2.2.3 Methodologies

In the previous section project and project management are defined. Project management can be seen of the sum of all sub processes which combined form the project management methodology. The following definition is given on project management methodology by McConnell (2010).

> ***Project Management Methodology:*** *is a strictly defined combination of logically related practices, methods and processes that determine how best to plan, develop, control and deliver a project throughout the continuous implementation process until successful completion and termination. It is a scientifically-proven, systematic and disciplined approach to project design, execution and completion (McConnell, 2010).*

Methodologies are a set of forms, guidelines, templates, and checklists that be applied to a specific project or situation (Kerzner, 2010, p. 156). According to Baardman et al., (2006) any brilliant project manager would not start a project without a project method. Therefore, project management methodology forms the assets (equipment) for the project manager to manage a project. In the Netherlands most used project management methodologies are; Twynstra Gudde Projectmatig Werken (PMW), PMbok, Prince2 and Projectmatig Creëren (PMC). However, PMbok is not a methodology rather a guide with specific description of processes and activites. Below those methodologies are shortly described;

Projectmatig Werken (PMW)

PMW is way of work[7] which can be done on improvisational basis, project basis, or routine basis. PMW is applied when one-off projects are considered which needs maximum of performance (Wijnen & Storm, 2007).

Projectmatig Creëren (PMC)

PMC method[8] is committed to the involved people who are central in this method. PMC strives to achieve a maximum balance between the project and the involved actors, environment and personal leadership.

PMbok

PMbok stands for Project Management Body of Knowledge. The PMbok guide contains the standard for managing most projects most of the time across many types of industries. The standard describes the project management processes used to manage (PMbok, 2013).

Prince2

Prince2[9] stands for Projects in Controlled Environments, and is a facto process-based method for effective project management. It is developed by the government of the United Kingdom and used internationally, especially in information technology (IT) environments. Prince2 provides documents with templates and clear decision points.

However, the success or failures of projects are not only dependent on project management and its techniques rather they are only a subset of the wider context of the project (Munns & Bjeirmi, 1996). A wide literature has given attention to the human side of project management. According to Stewart (2014: cited from Wilber n.d.) every knowable thing can be conceived as a holon. A holon is complete in itself (whole) but it also forms a part of a larger whole. Stewart address here the integral theory of Ken Wilber who is the founder of the integral instittute in the descipline of philosophy and psychology. Wilber's analysis concludes that if a holon fails to balans its wholness and communion with others at its level, then it will collapse and cease to exist. If it ceases to exist, the consequences are that everything above it in the holarchy (a hierarchy but it actually occurs naturally) would also collapse. Stewart adresses that if the current project management practices were reviewed as a holon, then a

[7] http://www.projectmatigwerken.info [visited on 24 June 2016]
[8] http://www.ipma.nl/wiki/kennis/projectmatig-creeren [visited on 24 June 2016]
[9] https://www.prince2.com/eur/what-is-prince2 [visited on 24 June 2016]

critical review would suggest an imbalance between soft and hard aspects of projects. Flos (2014) depicts that according to meta-studies it is observed that two thirds of all projects fail regardless the location. Failure can be defined in terms of delays, cost overruns and lots of project team suffering (p. 11). Thus, only one third of all projects do succeed according to the predefined objectives. The reason given to these causes are summed as the human failure. For example, the hard factor which is making a planning can be done perfectly but the one who is committed to monitor the planning can be reluctant and which can cause delays.

2.3 "It is people who deliver projects not processes and systems"

> *"Hard skills ... are typically easy to observe, quantify and measure. They're also easy to train, because most of the time the skill sets are brand new to the learner and no unlearning is involved. By contrast "soft skills"... are typically hard to observe, quantify and measure...Are needed for everyday life as much as they're needed for work." (Dennis Coates)*

From the previous it is distinguished on one side the project management method and on the other side we deal with people who use those tools and methods. Throughout the literature (Lechler, 1998; Cooke-Davies, 2002; Turner, 2003; Turner & Muller, 2005; Morris & Pinto, 2007; Jacobs et al., 2012; Flos, 2014; Stewart, 2014; Sridhara & Sreenivas, 2014; Reinking, 2015) it is widely becoming accepted wisdom that it is people who deliver projects not processes and systems. When the method contributes 15% of the project success then the people contributes more than 85% on the project success according to a meta-study between Harvard and Stanford university (NSSA, 2015). As a metaphor, 'a good carpenter with poor tools will achieve more than a bad carpenter with proper tools. Or the causes of project failure might not be the cause of poor planning but rather a planner who ignored the planning. That's why the human side of project management has gained so much attention in the project management field. Flos (2014) discusses in his book "the perfect project" that the larger part of the methods do not take the human side (behaviour) into account. He argues;

> ***James Bond does not exist:*** *"The problem with project management methodologies is that it does not give insights in the people who in practice have to execute the project. It is assumed that everyone is capable of using the method. The founders of Prince2, PMbok, IPMA and SCRUM assume teams which consist of James Bond, Superman and Johan Cruyff whom are leaded by Steve Jobs. They do not take into account that those figures are fiction, dead or occupied." (Flos, Het perfecte project - De mens als sleutel tot succes, 2014, p. 15)*

In the work of Baardman et al. (2006) we can confirm that the aforementioned concern regarding the soft factors are an essential element which is missing within most important project management methods. However that was not the initial intention of the authors rather they wanted to provide an overview for organizations to choose a project management method. The different methods are assessed on a four point scale within ten different aspects. The four point scale is as follows: Absent of an aspect = 0, mentioned = 1, elaborated = 2 and finally fully supported = 3. The soft aspects relate to intern communication, leadership, team importance, context analysis and management. Two familiar project management methods are chosen to illustrate the concern on missing elements of human side. Those methods are: Prince2[10], PMbok[11] as it is illustrated in figure 2.2 below.

[10] *PRINCE2 stands for PRojects IN Controlled Environments, is a de facto process-based method for effective project management* (PRINCE2.com)

[11] "*PMBOK Guide cannot be seen as a project management methodology, it is a combined 'guide' and an ANSI standard. It stands for A Guide to the Project Management Body of Knowledge. The processes described in the PMBOK Guide are generally accepted good practices that apply to most project most of the time. This may be the foundation for a good project management methodology. But of itself, the PMBOK Guide is not, and cannot ever be a methodology without adaptation*" (Weaver, 2009).

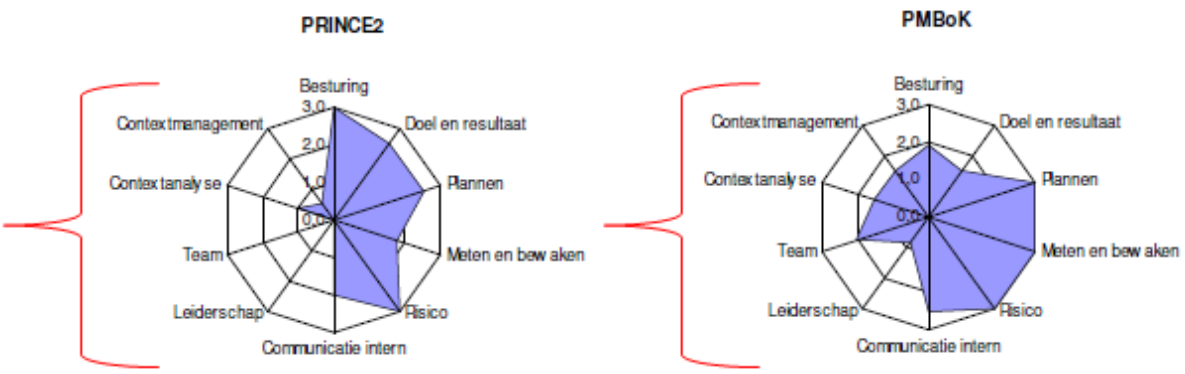


Figure 2-2: Project Management methodologies Prince2 and PMbok with their focus areas (Baardman, et al., 2006)

The human side and project management methodologies are combined i.e. linked to each other in terms of responsibilties and tasks. Project management activities and aspects consists of sevral processes which should be executed by people (the responsible ones). This is done within an organization such as a project-based organization. The latter is defined and explained in the following section. Although, it is often misunderstood by consultants and engineers why they should have to learn and deal with project management. Many of them did not want to take the additional time to learn project management methodologies and felt they had enough on their hands just staying knowledgeable with the ever – changing technology (Kerzner, 2010, p. 139). Moreover, Kerzner (p. 82) addresses that in some companies, there are too many project management methodologies used. Some are necessary due to the varying nature of work, but basic project management practices and principles could easily be standardized but are not. When one manager has to transition to another, this creates an extra layer of complexity, because a common language is not being used between the two people (it is like trying to interpret someone else's code when they have not followed the standards you have been using).

2.4 Summary and answer to sub question one

What is the current state of Project Management discipline within project-based organizations in the infrastructure industry?

In this chapter it is tried to provide a first impression on projects, project management and the methodologies used in the project-based organizations to execute successful projects. It is understood that the observable assets around us can be interpreted as systems which are constructed through a project management process. However, those methodologies do not sufficiently provide insight in the balance between the method and the people who use those methods. A lack of soft factors is missing with each of the previous mentioned methodology. For Prince2 and PMbok it is illustrated in figure 2.2.

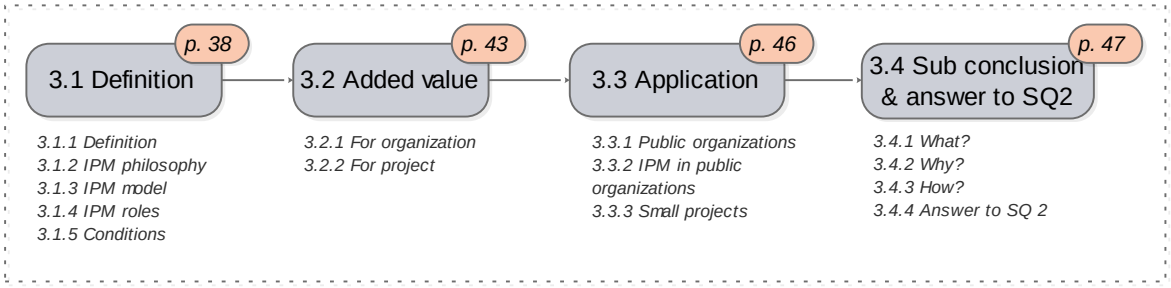
Furthermore, the project management methodologies do not efficiently fit into the infrastructural environment because these methodologies are derived from other industries such as IT in case of Prince2. Therefore, there is a need for another approach to manage infrastructural projects whereby also much attention is paid to the human side of projects.

3

Integral Project Management

*This is the second chapter of the literature study. This chapter aims to address the second sub question: "**What is the added value of IPM to project-based organizations in the infrastructure industry?**" The objective of this chapter is to contribute both on further knowledge on IPM but also to create a better understanding of IPM. In order to answer the sub question an empirical research is conducted namely interviews within RWS, founders of IPM, local organizations who are attempting to implement the idea of IPM in their organization and last but not least data on IPM is also extracted from Dutch projects such as Program SAA, Renovation of 8 Steel Bridges, and Beatrixsluis. The concept of Integral Project Management is a much debated topic within the public projects. Many local public parties such as municipalities, provinces and Waterboards consider approaching their projects according to the concept of IPM. This chapter is constructed in three parts: first the 'why' question is answered. Secondly, the 'what' question and last but not least the 'how' question is answered.*

Figure 3-1: Overview chapter 3



3.1 Integral Project Management defined

3.1.1 Definition

IPM is a standardized method for the control of large infrastructural projects such as within RWS, ProRail, Ministry of Housing and Construction (Rijksgebouwdienst) and an increasing numbers of Waterboards. IPM ensures for uniformity and standardization in steering of projects (in Dutch 'aansturing'), organization and efficient resource management (in Dutch 'bemensing'). The concept frames the main processes for infrastructural projects and defines key roles for the different disciplines. IPM is a hybrid form of project management tailored for the infrastructure projects in the Netherlands (Wermer, 2015a). IPM is thus no new project method as many would believe. IPM aims to construct a risk oriented project organization with different disciplines within project management referred to different accountable role keepers to result in the best project result.

> *Integral Project Management is a collaboration concept for project organization and an uniform way of organizing projects i.e. it means a standardized integrated project approach to accomplishing tasks with lifecycle thinking. An IPM project team consists of five key role players; project manager, manager control, contract manager, stakeholder manager and the technical manager. These key role players led a team with project leaders, advisors and technical staff. IPM concept was initially known as a collaboration concept which means that effort is paid to bring several disciplines together through dialogue. Team collaboration, team effort, team culture, team building are essential elements for an effective IPM team (Wermer, 2015a; Wermer, 2015b)*

According to Jongkind (2015) the basis for IPM is the 'samenwerkingsmodel' namely collaboration philosophy which means that different aspects within project management are considered integrally which in turn means that collaboration between those different disciplines is a must. In addition, IPM is a specific interpretation of projectmanagement whereby many principles are used both from PRINCE2 methodology for the hard elements i.e. projectmanagement method which is 'Projectmatig creëren' and IPMA is used for the soft elements such as competences. Hence, IPM is therefore a hybrid form of projectmanagement which is developed throughout the years using many principles from other projectmanagement methods to tailor it for the RWS organization and for the infrastructural public projects. Wermer (2015a) distinguishes the concept of IPM into three levels: (1) IPM philosophy, (2) IPM model, (3) IPM roles. This is illustrated in below in the IPM pyramid in figure 3.2.

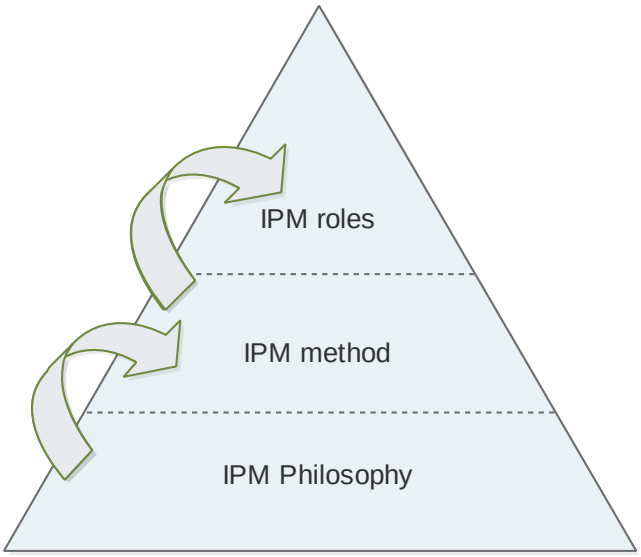


Figure 3-2: IPM pyramid

3.1.2 IPM philosophy

The fundamental thought behind IPM is the philosophy which forms the basis of the IPM pyramid. The philosophy is described as follows:

> *"Belangen uit de verschillende disciplines erkennen en herkennen. Dat zijn zeker niet altijd dezelfde belangen. Deze belangen expliciet inbrengen in het projectteam en in gezamenlijkheid integraal afwegen. Dat laatste met het oog op risico's en andere beheersaspecten. Alle disciplines delen informatie, kennis en risico's." (Wermer, 2014a, p. 3)*

The interpretation of the philosophy is acknowledging and recognizing the interests of the different disciplines namely projectmanagement, project control, stakeholder management, technical management, and contract management. Those interests could be for example for the stakeholder manager that he is in urge to satisfy the stakeholders desires or wishes but while technically those wishes could not be executed by the technical manager. The same goes when a technical solution is derived from the design which is an interest for the technical manager but at the same time an opposite interest for the contract manager who urges to implement an economically and socially advantage contract whereby he finds the technical solution unacceptable to be forwarded in the contract. Therefore, those conflicting interests should be collectively considered. The end decision is the responsibility of the project manager.

3.1.3 IPM model

In the IPM pyramid it is shown that the philosophy is fundamental and whereas the IPM-model is an outcome of that philosophy. The IPM-model describes both the enabling activities eg. Scope management, schedule management, budget management, and quality management as well as facilitating processes e.g. contract management, stakeholder management, information management etc. An exceptional aspect in this model is that risk management, which is a facilitating process, is set as the heart of the model. That's also the reason why IPM is risk oriented which means that each discipline acknowledges risks both endogenous as well as exogenous. Project manager control steers on risks in alignment with time, cost and resources, stakeholder manager steers on risks emerged in interaction with the environment e.g. stakeholders, technical manager steers on risks which can have impact on the end result and finally, contract manager steers on risks which emerge in interaction with the market e.g. procurement, contract etc. The enabling processes such as stakeholder, technical and contract management has each an appointed key role namely stakeholder manager, technical manager, and contract manager. The IPM-model is illustrated in figure 3.3. In next section the IPM roles are further explained.

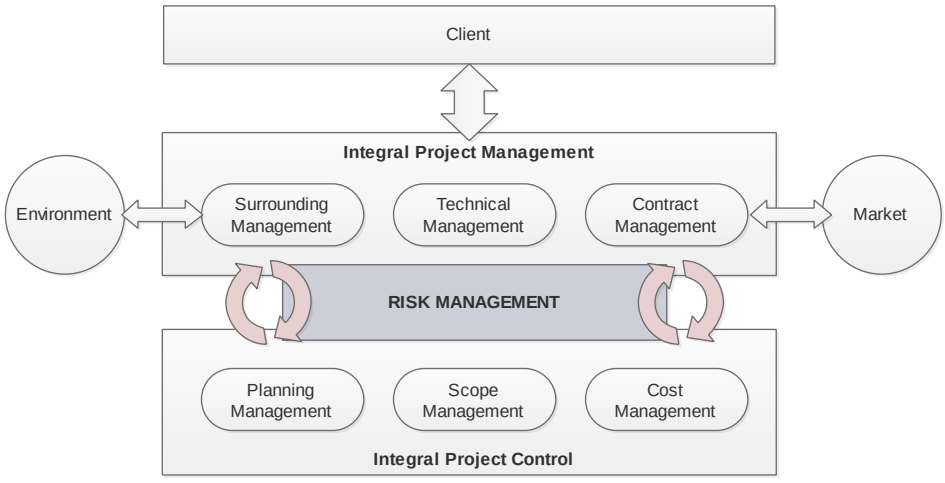


Figure 3-3: IPM-model (own illustration based on the original from Wermer, 2014)

3.1.4 IPM roles

RWS acknowledges 7 sub-processes which are linked with 5 process roles. IPM roles are process roles which are derived from those sub-processes. Process roles means that these roles have a steering responsibility towards their sub team with project leaders, advisors and technical staff. IPM-model covers five working fields with each an appointed manager who is responsible for the delivering's/products. What tasks, activities, responsibilities and authority they have depends on the project scope, phase, complexity and most of all it depends on the individual interests of the involved organization (Faber, 2015; Draisma, 2015). Thus, IPM roles are chosen for a certain project according to more or less the complexity of the projects. For instance, stakeholder manager will have a heavy tasks and responsibilities when we deal with projects with high complex environment with large number of stakeholders involved. Obviously, the different role of an IPM team does not need to be fulltime on a particular small project. He/she can have other smaller projects in his portfolio. Another reason for fulfilling the IPM roles can depend on the project budget. The interpretation of the roles thus depends on the organizations interests. In addition, it is important that all team members and the project manager must understand fully the responsibilities and functions of each team member so that total integration can be achieved rapidly and effectively (Kerzner, Project Management - A Systems Approach to Planning, Scheduling and Controlling, 2009, p. 175). The five IPM roles are highlighted below in the role-pyramid figure 3.4.

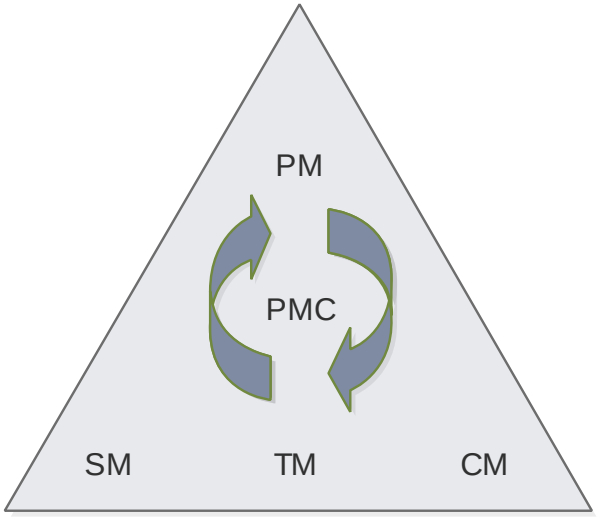


Figure 3-4: IPM roles (Wermer, 2015a)

Project manager (PM)

Dozens of books are written on the role of project manager for the construction industry. Every project management book has given attention to this role. However, each project manager is unique in the sense that the organization requires some tasks and responsibilities for the project which needs some specific interpersonal skills. The project manager according to RWS is primarily responsible for achieving the project end result according to the initially recorded terms regarding time and budget. The project manager steers the project team, manages the interfaces between the different disciplines to avoid tunnel vision (in Dutch: "verkokering"). Most of all he is responsible for the team support and synergy between the group; he is the 'glue' for the other roles (Wermer, 2012). Thus, the project manager has an important role within the group. He is mainly responsible for the functioning of the team which means that within the team sufficient attention should be paid on the soft skills. This can only be done in collaboration with the line management. Wermer believes that the interaction between project managers and line managers can enormously be improved which can have many benefits for the whole organization (Wermer, n.d.). Wermer continues that formally the project manager request human resource in respective to the IPM roles for his project by the line manager. Often he gets inadequate managers because there might be a lack of human resource at that particular moment thus

it is the task of the project manager to create a well-oiled team. It is the team who wins the game not the individual star player (Wermer, n.d.). An ideal project manager according to RWS has organizational sensitivity, is independence, is aware of the environment (externally oriented), anticipates, has client focus, collaborates, and acts innovatively. At the same time he must show leadership, coach the team, and is steering (Wermer, 2011).

Project Manager Control (PMC)

The project manager control is in essence the central role and simultaneously the counterpart for the other roles. He/she is responsible for the overall control of the project in respect to budget, planning, scope/quality, and risk control. But also document and progress reporting is the responsibility of the project manager control (Wermer, 2012). Thus, he/she must have knowledge several components within project management discipline. Those are for example: scope management, financial management, planning management, risk management, quality management, information management, and document control (Wermer, 2014c, p. 8).

Stakeholder Manager (SM)

The input which is required to be set in the contract by the contract manager are; (1) Clients Requirements Specification which consists of the needs of clients and stakeholders, (2) after consideration a set of system specifications is constructed, (3) and finally the set of system specification is ascribed to question specification (in Dutch: 'Vraag Specificatie') (Peletier & Post, 2009, p. 45; cited from guide for Systems Engineering). The stakeholder manager has intensive interaction with all other roles. For instance, an essential counterpartner is the contract manager because all the requirements collected by the stakeholder manager needs to be implemented in the contract for the contractor. On the other hand, this creates a tension between these two roles because the client also wants a contract with enough room for the contractor to come up with creative and inexpensive solution. The competences required from a stakeholder manager differs to respective the project phase but in general the following competences are a must: ability to emphasize without judging, honest (integrity) and reliability, 'elephant skin', transparent and open minded, communication skills, organizational sensitivity and timing, governance,- political,- and environment sensitivity, a networker and mediator, negotiator, helicopter view and coordinator (Peletier & Post, 2009, p. 55).

Technical Manager (TM)

Technical management is focused to deliver the technical result for the client. An important task within this field is establishing of the functional requirements (Wermer, 2014c). This ensures that it is possible to steer on the requirements during the life cycle of the project. The latter is done according to System Engineering (SE). The technical manager is in charge of designers, project leaders, systems engineers, structural engineers and all the technical staff who contributes to the technical solution of the end result. The technical manager collaborates together with the stakeholder manager and contract manager on the wishes and requirements from the clients and stakeholders to be bind it into a well packed contract for the contractor. The competences which are required for technical managers are; persuasiveness, conceptual flexibility, acts accordingly and innovatively, informed and realistic decision-making, and inventiveness (Wermer, 2014c).

Contract Manager (CM)

Contract manager is responsible for the control of entire process of contract preparation and execution respective to the market parties. Procurement and tender process is led by the contract manager and the contract type is chosen which best fits the environment and to the needs of the client and stakeholders (Wermer, 2012). Contract manager's competencies are to anticipate when needed, he/she knows best how to deal with stress, and he/she is judgmental.

3.1.5 Conditions

Executing projects according to IPM requires some condition both for the organization as well as project team climate necessary to have successful projects. Those conditions are in first place not recorded in books, reports or any other documentation but rather are knowledge and experience of experts on the field of IPM. From the interviews some conditions can be extracted such as: Line

management should be leading which means that they are responsible for development and learning programs for individuals who wants to develop in an IPM pathway (role). Thus, the first responsibility is embedded within the line management and HRM. There are now two ways an organization can deal with the workforce: an organization can choose to have new entrants which are selected for a particular discipline. For them training paths can be developed which they can follow to grow in one of IPM roles. But the organization can also choose to develop the current employee and make them enthusiast to develop to a certain role. Employees can be asked to choose a pathway which best fits their interests. In the end, not everyone can be a project manager in a project. This way, employees are shifted to their strengths, ability and their interest for a particular discipline. One could debate about the fact that professionals can also choose to develop into two or three different pathways e.g. project, contract and environment manager. The same thought has played in the engineering department of Amsterdam. The experience was that people shifted towards several roles which resulted in tasks overlap. This is supported by the following citation;

> *"…wat we ook gedaan hebben bij de implementatie is, in eerste instantie dat de mensen meerdere rollen konden vervullen. Daar was ik heel snel van af. Dit leidde ertoe dat de bestaande teams de rollen gingen verdelen. Dus projectmanager was ineens omgevingsmanager, en project assistent was projectbeheerser en technische manager. Dus we zeiden nee we stoppen er mee. Eén rol één man of vrouw. Toen hebben we de hele boel omgegooid. Dus zijn we ook gaan kijken naar de competenties die mensen hebben middels een onderzoek. Mensen assessments laten doen. We hebben 360 graden feedback laten doen en daaruit kwamen de competenties eruit dus zijn we in gesprek gegaan. Die vaardigheden en competenties passen in die rol en stellen dat voor. We hebben ze zelf laten kiezen maar wel goede richting gegeven. Van nou wij verwachten dat je daar het beste in past. En dus toen zijn we echt met IPM aan de gang gegaan. Dus we hebben heel rigoureus gezegd 1 rol 1 man". (van Rossum, 2015)*

Equality of the roles is another aspect which should be dealt with in the projects. In previous section the philosophy of IPM is discussed. In that philosophy it was illustrated that to have an integral approach towards the different interests from all five disciplines and especially the three functional roles namely stakeholder manager, technical manager and contract manager. Integral approach can only be reached when all roles are equal when considering the different interests. Obviously, stakeholder manager has higher intensity in planning and orientation phase while the contract manager has higher intensity when the project faces the realization phase. But this does not mean that the interest of one those roles are decisive above the other. In case of opposed interest the project manager is then in lead to make a final decision. One of the reasons behind the equality of the roles is to empower the four roles next to the project manager to have the same interest in the project. According to Jongkind (2015) in large organizations a project manager can grow in experience to a dominant role with huge amount of influence and can have a rigid view of reality. Those project managers are less open for perspectives of the organization. In order to break through this, equal interest of IPM roles should be ensured in the project team.

From the interviews another condition arise that the IPM roles are process roles which means that they are steering instead of content related experts. They should steer the whole organization within their discipline with project leaders, advisors, and support team but also interact with other IPM roles. Whereas, others debate that the IPM roles also should be content knowledgeable. The latter means that the IPM roles should know what the project is about in detail according to their discipline. For example, a technical manager should not only be steering but it is also important that he can challenge his staff or have conversation with contractors and discuss with them technical nuances. According to Muntinghe (2015) there should be a balance between the soft skills, thus horizontally broad knowledge but also hard skills which could be technical expertise thus vertical knowledge. The latter can be schematized as a T-model as it is illustrated in figure 3.5.

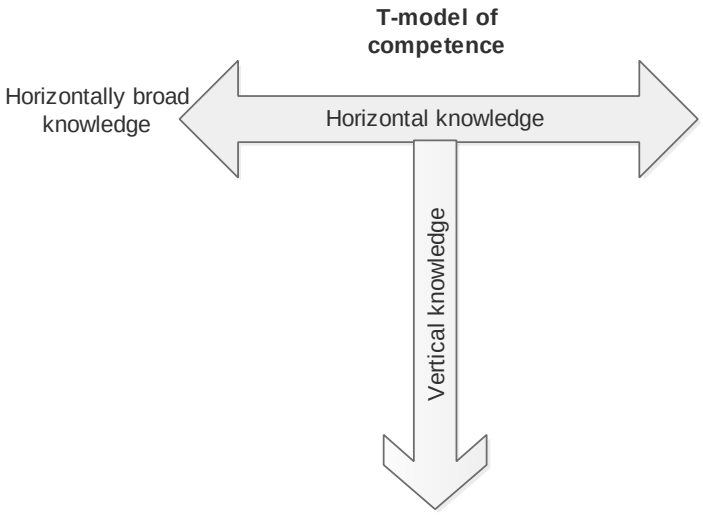


Figure 3-5: T-model, balance between both soft as well as hard knowledge

The same discussion is relevant because do you want to develop a technical staff towards a manager? Or should you develop a manager towards technical know-how?

A final condition is to have a safe climate in your project team. A safe climate can be defined by limiting culture of fear. Team members should be allowed to make notice of risks which can have fatal consequences for the project result. They shouldn't have any fear that their position will be under dispute says the financial director of the biggest program in the Netherlands mister Muntinghe (2015). In addition, there should be a sphere where information, knowledge and risks are shared between the different disciplines.

3.2 Added value of implementing IPM method

Every project-based organization is naturally a demand and supply organization, which in Dutch is called a 'regieorganisatie' (Jongkind, 2015). Any project-based organization which needs to control its products or projects can shift towards the method of Integral Project Management. Today any imaginable public project is executed according to the standards of IPM. The main reason to organize according to IPM is to create uniformity. Uniformity in this sense means standardization in project organization including a uniform way in allocation of tasks and roles which eventually leads to cost reduction in terms of process, project organization, resource allocation and miscommunication.

> *"Belangrijkste reden was dat we projecten door heel Nederland en verschillende fases op hetzelfde manier wilden aanpakken. Dat is eigenlijk de belangrijkste reden waarom we het hebben gedaan: UNIFORMITEIT. We hadden elke andere werkwijze kunnen gebruiken die we wilden. Maar dat we iets kozen en verder gingen implementeren en iedereen het zo deed, was het belangrijkste" (Wermer, 2015a)*

3.2.1 Added value for a project-based organization

Since its introduction within the projects of the Dutch authority for water and highway, IPM has proven to have benefits both for the organization as well as for the individual projects (Faber, 2015; Wermer 2015; Jongkind, 2015; Draisma, 2015; Stroeve, 2015). Benefits for the organization can be expressed in terms of efficiency and standardization which can result into cost reduction. Benefits for project is that all domains are taken into account and the equality of roles stimulate the different roles to be committed to their discipline and the project team which can result eventually to better project outcomes and manageable projects. However, from the interviews it is observed that both RWS as well as the engineering department of Amsterdam (DIVV) were not able to show figures which can

demonstrate that financially these organizations have better projects after implementing IPM. According to Van Rossum (2015), board member of DIVV, the reorganization within the enterprise was due to the fact that projects were organized inefficiently and in a pragmatic manner which resulted in poor scope management and higher process costs. In addition, Wermer (2015) believes that the biggest added value by introducing IPM is that within the whole organization, people begin to speak the same language. For instance, a contract manager in the northern part of the country and to a contract manager in the southern part both know what is expected from them in their role regarding; competence, skills, knowledge, and responsibilities. Through this way, opportunity is created for public organizations to outsource temporary IPM roles. Another improvement is the overall control of the human resource within the organization (Jongkind, 2015). From the perspective of IPM line managers get into control over the different roles. For example, managers can choose for a specific field within IPM. By creating clubs within each discipline, the knowledge and information can circulate between these specialists. All together care for the development of this discipline. Through this way, it is easier for the organization to create and motivate their people within a specific discipline to follow a certain course or workshop to develop them instead of opening a course and waiting for the responses. In addition, it is important to mention that the organization culture helps to implement the IPM method. RWS in that perspective has a dialogue culture which helps working in IPM teams. In short, choosing a project manager must not only depend on the scope and complexity of the projects but also on the significant focus area of the project. For instance, one project needs more attention on the stakeholder because of the complexity of stakeholders than the complexity of the technical solution. All interviewees agree to the fact that IPM does not only improve project organization through universal language, uniformity, control, efficient capacity management, improvement of knowledge management, but it also has many benefits for the project team.

> *"…dat moet je niet bekijken voor één project. Je moet het kijken op organisatie niveau want dat heeft hogere toegevoegde waar… de meerwaarde zit hem in het feit dat je gedurende langere periode kunt investeren in mensen, ze kunt opleiden, geüniformeerd en gestandaardiseerd, waardoor je overdracht van mensen van het ene project naar het andere sneller kunt bewerkstelligen. Dus IPM invoeren is een organisatie belang". (Jongkind, 2015)*

3.2.2 Added value for the projects

Projects have a temporary nature with a start and end term. Projects are the core business of a project-based organization. Regarding the benefits and expected results of IPM for the projects is uniformity. Projects will be organized in the same fashion throughout the organization. Uniformity reduces the waste time when a manager is shifted from one project to another to learn the project organization. All managers are familiar with the project organization according to IPM. In addition, both small as well as large projects can be organized according to IPM format. Smaller projects are then clustered into one IPM team. It is relevant to mention that the composition of the IPM team is of paramount importance for the project end result. It is possible to create an extra IPM role concerning the significant complexity of the project. Such an extra role is for example chosen for one of the projects within the program Schiphol, Amsterdam and Almere (SAA). Muntinghe (2015) explains that they needed a TTI-role (Tunnel Technical Installation manager) for the specific project because they are dealing with a tunnel.

> *"Ik doe ook een project: renovatie van IJtunnel. Het is een groot project hier in Amsterdam. Ik ben een IPM'er. Zet mij niet op de rol van de contractmanager, dat vind ik helemaal niet leuk, dus komt ook niets van terecht. Dus je maakt gebruik van mensen zijn sterke punten en sterke vaardigheden. En dat vind ik heel groot voordeel van IPM. Dus je specialiseert je toch een stukje. Je hoeft ook niet meer van A tot Z op de hoogte te zijn van alle spelden in een groot en complex project. Want vroeger, later we eerlijk zijn, 20 tot 25 jaar geleden waren projecten minder complex dan nu." (van Rossum, 2015).*

According to Draisma (2015) there is a particular shifts and overlap in roles for the stakeholder manager and technical manager for setting up the Client Requirements Specifications for the initiation/planning phase. Furthermore, he continues that by project start up when the roles are

divided, afterwards the role keepers do not know their tasks and responsibilities. Especially, when there is a shift in the phases of the project for instance with integral safety during the different phases of the project a shift occurs in the tasks and responsibilities. The importance of team collaboration is essential for a healthy project. Draisma (2015) points to the organizational culture of RWS. RWS has a dialogue culture: each and every argument or dispute is discussed and debated. Furthermore, equality is important within the IPM team which means that the IPM roles should be on the same level as for competence, skills and salary (less important). He continues with other issues on the IPM team collaboration. According to Draisma (2015) a well-balanced IPM team in matter of aging is essential for a good collaboration sphere. Young managers tend to communicate much through electronic ways while elder and rigid managers prefer face to face communication. Another issue is the balance between small and large projects. According to the profile and level project managers for smaller project can handle more facets at the same time comparing with larger and complex projects. Draisma concludes that it is essential with the implementation that the success factors are implemented and not the rules.

3.3 Application of Integral Project Management

3.3.1 Public organizations

Public organizations with construction projects have decided to introduce, implement, or consider IPM in some way. Up till now, ProRail, the real estate department of the government and two large municipalities are considering IPM application. Already four Waterboards and three provinces have introduced IPM into their organization. Surprisingly, 11 Waterboards, three Provinces and the municipality of Amsterdam have already implemented IPM into their organization (Wermer, 2014a). The major transition and transformation of different public organization and especially Waterboards is due to the fact that RWS is entered towards collaboration with the corporate Waterboards. This has led to a close partnership which resulted to the deployment of IPM within these organizations.

Surprisingly, there is also a considerable interest from the private sector. Obviously, RWS is the main client for many engineering firms and contractors in the Netherlands. These parties are involved in close partnership with RWS in many projects across the country. IPM is developed within a public organization and is tailored for the infrastructure sector. The question may rise here to what extent IPM can be applied within other private organizations with different mind-set and goal? However, this can be a research question in itself thus it is excluded in this study. This section aims to highlight some elementary details such as; how the implementation is occurred within the public organizations? What the intensity and expectations are from the IPM roles in the different phases of a project and what IPM can contribute to smaller project portfolio? These questions are answered in the following sections.

3.3.2 IPM and public projects

The interviewees (Jongkind, 2015; Wermer, 2015a; van Rossum, 2015) admit that irrespectively the subject of implementation one will have resistance and friction from the work floor. Thus, one cannot apply a tool, process, or a way of work in forcedly manner. This should be done in alignment with the employees. Therefor it is necessary to set the higher goal of the organization as an objective to organize according IPM. At the time when RWS introduced that their higher goal is to organize uniformly and to specialize in different disciplines that there was a great interest from the project members to develop themselves towards a specialism. According to Wermer (2015a) the courses set for the development were highly demanded. In this case, line management becomes highly relevant as a facilitating organ of the organization. Initially, at RWS when IPM was in implementation phase, the line management was not involved which had consequence on the implementation says Wermer (2015b). To have success, all management lines should be involved in the implementation and especially the line management because they form the link between the organization and projects.

Furthermore, within public projects/organizations it is observed from interviews that the more public entities organize in the same manner the more efficient and effective the outsourcing in knowledge and employee become. Van Rossum (2015) denote the organization considered IPM in the same fashion as it is organized within RWS which has led to an agreement between municipalities and RWS which is called AMRO[12]. To realize this, it was necessary to speak a universal language namely the language of IPM.

Within RWS the implementation started with a focus on the realization phase, afterwards on planning and maintenance phase in accordance with the IPM model which is the work method (Project management methodology) as it described in the work processes (in Dutch: Werkwijzer Aanleg & Onderhoud). The focus has set on the process (steering/managing) rather than only technical know-how and knowledge management is made important aspect through the implementation phase. Besides, extensive training, learning paths and personal development courses arose in order to fit people in their strengths. Thereby, close attention is paid on the soft factors such as communicating, collaboration and knowledge sharing.

[12] Such agreement aims to create efficiency in resource allocation within public projects

The same implementation steps are followed by the municipality of Amsterdam. First of all extensive discussions and debates are hold on the implementation of IPM. Within the engineering department of municipality of Amsterdam they acknowledge six project phases while RWS acknowledges three main phases. The three project phases are used as under layer for their six phases. The products/tasks are aligned to each phase. The different sub processes as it is known within RWS are translated to the organization. Also same training and courses are introduced to develop the current employee towards several disciplines. Finally, within the implementation experts are involved for team sessions and transition (change in work method).

3.3.3 Small projects

A very much debated question on IPM is when small projects are considered. As we now know that IPM only provides a framework for organizing projects efficiently. Especially within local public organization many small projects exists from small cycle track to traffic studies. What says IPM on this matter? Overall the interviewees answered this question by saying that clustering these small projects would be a first solution on hand. Thus, all small projects regarding traffic studies are located to one IPM team. However, some interviewees mentioned that IPM is not rigid and fixed solution. It can be adapted and adjusted to the circumstances. For example, if there are many small projects then the role of project control can be shifted under the responsibility of project manager.

3.4 Sub-conclusion and answering sub-question two

In this chapter the IPM concept is explored in detail through an empirical approach. Semi-structured interviews with the developers, founders, and experts resulted in elementary knowledge. This paragraph concludes this chapter and provides an answer to the research question one:

What is the added value of IPM to project-based organizations in the infrastructure industry?

3.4.1 SQ2.2: What is IPM?

IPM stands for Integral Project Management. IPM is a hybrid form of projectmanagement which is developed throughout the years using many principles from other projectmanagement methods to tailor it for the RWS organization and for the infrastructural sector. IPM can be elaborated into philosophy, model and roles. The interpretation of the philosophy is to recognize and acknowledge the interests of the different disciplines namely projectmanagement, project control, stakeholder management, technical management, and contract management. Each discipline represents a manager. These managers are process oriented which means that they steer their project team, experts or technical staff.

3.4.2 SQ2.1: Why is IPM needed?

Integral Project Management is introduced within the Dutch Authority of Water and Highway to professionalize the discipline of project management and at the same time to bring efficiency, standardization/uniformity in the project organization. The introduction and development of IPM within RWS has brought many benefits for RWS: universal language (improvement of communication), exchange in employee, improvement in link between knowledge, processes, and organization structure, risks are better controlled and managed and finally and most important, projects are in control.

3.4.3 SQ2.3: How can IPM be embedded in a project-based organization?

In general a project-based organization such as RWS has many projects from small to large infrastructural projects. For the implementation of IPM in the organization it is important to set the line management as a central role. The introduction can happen step by step starting with focusing on the aspects, recognizing and acknowledging it and last but not least facilitating it through training, courses and learning paths. Besides, it is crucial to keep attention on the soft side because IPM stands for the integral character which defines itself by collaboration between the roles. In essence, IPM provides in general frames to enhance projects through efficient organization but then it all starts because how do you take care for that the IPM roles work together? How do you take care for that the soft skills of IPM roles are improved? How can one take care for improvement between line and

projects? How can one get an efficient capacity management? Those are all questions which play a role after the decision to use IPM.

3.4.4 Answer to sub-question two

What is the added value of IPM to project-based organizations in the infrastructure industry?

Any project-based organization aims to manage their projects efficiently and effectively. The concept of IPM is elaborated in detail in this chapter. IPM is developed for the last decade and made tailored for the infrastructure industry within the public organization RWS. The added value IPM had for the RWS organization and as well as the engineering department of the municipality of Amsterdam is that projects are organized on the same manner which defines itself as standardization of roles and tasks with a clear and transparent project organization structure. This means that throughout the organization line managers and project managers know exactly what task is assigned to what role, who is responsible for what task and everyone knows that for resource/capacity management the role of line manager has a central role. In addition, IPM does not only contribute to the organizational interest but also enhance the project. The different roles are equivalent in terms of authority, responsibility, and interests. Therefore, the roles are committed to collaborate and make space for dialogue to debate the opposing interests from the different domains, share knowledge, risks, and information. In table 3.1 some elements are shown compared to the traditional way of project organization.

Table 3-1: From traditional approach to integral approach

Current state of traditional way of project organization	Project organization according to IPM
Pragmatic approach	Uniform and standardized approach
Miscommunication in tasks and roles	Universal language
Project-based management structure: resources are allocated according to projects	Functional management structure: projects are organized according to functional roles
Line manager not involved in case of resource allocation and capacity management	Line manager has a central role in case of resource allocation and capacity management
Autocracy (functions instead of roles): decisions are made authoritative	Holocracy (roles instead of functions): decisions are made in consensus, dialogue, collaboration
Project manager has a dominant role	Equivalent roles
Project manager selects team members	Line and project manager consider consensus selection of team members
Technical focus: deliver performance based technical end solution	Process focus: deliver manageable projects
Available resources	Seek best team approach: people are placed in their strengths
Steered on hard factors	Steered on both hard and soft factors

To illustrate one of the fouth point from table 3.1 the following citation shows that for example in the current situation little to poor link exists between the project manager and line manager;

> *"ik vraag nooit mijn lijnmanager iets, ik kies zelf de mensen uit die ik wil hebben". Je moet gewoon weten hoe de hazen lopen. Je moet dondersgoed weten wie je wilt hebben. Ik maak nooit gebruik van de lijnmanagers" (Interviewee IPM, 2015).*

In case of international project-based organizations such as RHDHV, it is relevant to know how the current way of organizing projects is done and whether IPM can contribute to improve the traditional way of project organization. While the basis of IPM is to anchor roles and tasks and bring uniformity this wouldn't be different for international projects because internationally oriented organizations still

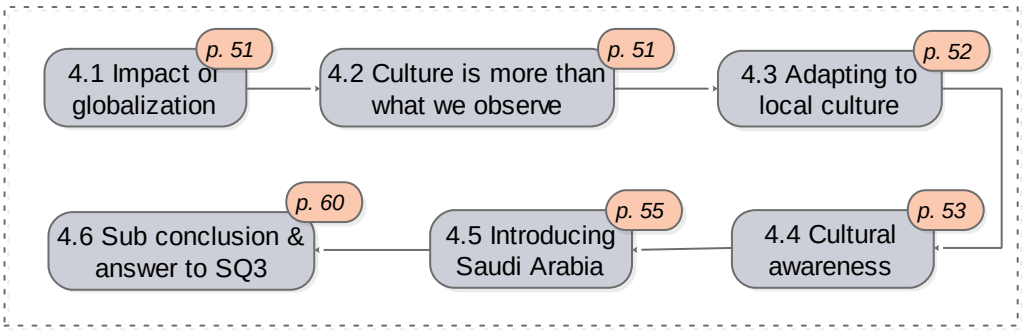
organize projects from the parent organization in the home country. However, the different domains of IPM will certainly be different in nature compared to how RWS perceives those domains. For example environment in the Netherlands requires different consideration compared to the environment in Saudi Arabia and risks for the project control are different in nature in the Netherlands compared to risks evolve in projects in Saudi Arabia. Furthermore, the cultural implications are also seriously having consequences for how IPM managers deal with cultural differences and their perception of the other culture. Therefore in the next chapter the cultural boundaries are elaborated.

4

Cultural boundaries

*The previous two (literature) chapters addressed the (integral) project management relevance to the infrastructure industry. While internationalization brought organizations closer to other cultures it is essential to understand that cultural differences can have enormous impact on the daily business. But what is the crux of the problem that many Dutch engineers and managers (in this research IPM roles) encounter cultural clashes with business partners abroad? This chapter forms the elaboration on the third sub question: **´If international projects are considered, how does culture form a barrier for interaction and communication for IPM role keepers and what specific competences are***

Figure 4-1: Overview chapter 4



4.1 Impact of globalization

In today's global market, companies regardless of industry and size are looking to improve their systems and processes to become more competitive. One way they are attempting to do this is by establishing project management as a core competence throughout the organization. By setting up standardized procedures within the company, they hope to learn from past mistakes by making processes more efficient, and develop people's skills and talent to work more effectively (Bolles, 2002). Simultaneously, keeping the aforementioned in mind, globalization, e.g. the intensification of international and transnational exchanges, seems to stimulate transplantations (Mamadouh, De Jong, & Lalenis, 2002). Globalization has brought people from different cultures together. Steger (2003) has provided the following definition for globalization:

> ***Definition globalization:*** *'Globalization refers to a multidimensional set of social processes that create, multiply, stretch, and intensify worldwide social interdependencies and exchanges while at the same time fostering in people a growing awareness of deepening connections between the local and the distant' (p. 13).*

Thus globalization has led to growing numbers of international contacts, which lay bare differences in negotiation, management and decision-making styles in different countries/regions in the world. In an era where trade, problem-solving and decision-making in public/private sectors are becoming increasingly international, the risks of miscommunication in professional contacts and their negative consequences can be dramatic (Steger, 2003). People coming from different countries have been framed by divergent cultural and administrative biases and fail to understand the influence this has on their actions. Increased awareness of these differences may help project managers to learn how to deal with them.

4.2 Culture is more than what we observe

According to Hofstede (2010) cultural differences manifest themselves in several ways (p. 7). Hofstede brought all the terms used to describe manifestations of culture to four aspects: symbols, heroes, rituals, and values. Both Schein (1990) and Hofstede (2010) use the metaphor for the skin of an onion to illustrate the four aspects in sequence of observable to non-observable such as values. This has been presented in figure 4.2. The skin of onion indicates that symbols represent the most superficial and value the deepest manifestation of culture, with heroes and rituals in between.

'Symbols' are any kind of image, object, gestures, or words which carry a particular meaning only recognized by the members of one culture. For instance, regarding Islamic nations, no such symbols have a role in the fundamentals of the religion. It is often misunderstood and misinterpreted that the shape of a crescent stands for the symbol of Islam. Usually, symbols from one cultural group are copied by others. Next, '*heroes'* are persons, alive or dead, real or imaginary, who possess characteristics that are highly prized in a culture and thus serve as models for behaviour. '*Rituals*' on the other hand, are the collective activities that cultures share and is considered socially essential. Examples are, the way people greet, paying respect to others, as well as social and religious ceremonies. A suitable example is the funeral; from the 'sky burial' in Tibet to Hindus cremation of the body in India. Symbols, heroes, and rituals are subsumed under the term practices as it can be seen in figure 4.1. At the heart of the onion there are the '*values'*. Values are broad tendencies to prefer certain states of affairs over others; what is good? And what is wrong?

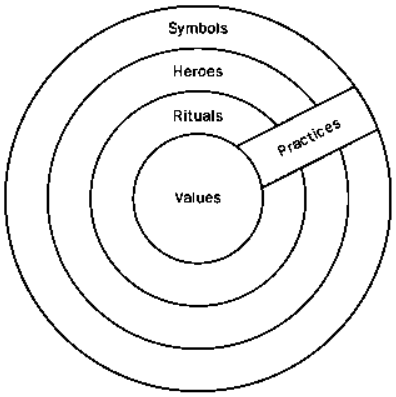


Figure 4-2: The "Onion": Manifestations of Culture at different levels of depth (Hofstede, 2010, p. 8)

To further illustrate the visible and invisible boundaries of culture let discuss another example. 'Iceberg metaphor' is a good example to capture cultural values, with a visible (observable) upper-level and below invisible (not observable) lower-level. The visible part forms the day-to-day working practices and ways of communicating, while the deeper and less accessible layers containing values and beliefs about why certain ways of working are credible, ethical or effective. However, according to Miladinovic (2014: cited Bennett, 2013) that Bennett raised the question of appropriateness of metaphors when discussing culture. One of the key properties of metaphors is that they highlight some aspects of concepts, but at the same time hide some others. In fact, cultures often have no clear boundaries and are not homogenous. For instance, the iceberg metaphor warns us against the danger, but does not show how to approach the iceberg and explore the depths. Perhaps it would make more sense to envision culture as a river: fluid and dynamic.

Culture can be depicted as a complex phenomenon which is present in every layer of the society. Each group or individual has its own specific cultural entities. Hofstede (2010) distinct several levels of culture: a national level, regional (ethnic, religious) or linguistic affiliation level, a gender level, generation level, a social class level, and for those who are employed (organizational[13], departmental, or corporate levels) (p. 18).

4.3 Adapting to cultural context

Since everyone is the product of their own culture, we need to increase both self-awareness and cross-cultural awareness. There is no book of instruction to deal with cultural diversity, no recipe to follow, but certain attitudes help to bridge cultures. Being aware of how to decode other cultures and avoid easy-to-fall-into cultural traps, misunderstanding, needless conflict, and ultimate failure can all be avoided through a willingness to understand other cultures. It is essential that within this chapter (and research) it is avoided to discuss 'team culture' which is explained as differences that can arise from a person's professional, religious, class, educational, gender, age and other backgrounds. Also 'organizational culture' is excluded which forms the cultural barriers between the organizational styles when different individuals are involved within a project from different organization within the same region or within the domestic boundaries. Furthermore, it should be noted that impact of culture on individuals who interact, is both present internationally as well as within their own work units.

> *"We try to adapt our menu to reflect different tastes and local traditions for every country in which we have restaurants. We're keen to respect cultural differences and so every country has its own policy of developing menu items." (McDonald, 2012)*

Did you ever ask yourself about how Mac Donald's could be so successful with so many restaurants around the globe? Well its success lays in their cultural adaptability (i.e. the capacity of people or group

[13] The aim of this chapter is to highlight the cultural differences between nations/groups thus no attention is paid on organizational level of cultural differences which is a research on itself.

to acclimate and come to be used to a separate culture namely becoming a cultural chameleon) which brought them success across the borders (Zanoni, 2012). It's almost fascinating how McDonalds becomes an embodiment of a country and its culture: a combination of the basic concept of the burger with the local flavours and taste. For instance, "Bulgogi Burger" in South Korea, "McShawarma[14]" in Israel, "McOz" in Australia, "Maharaia Mac" in India "Croque McDo" in France, "Teriyaki McBurger" in Japan and of course the "McArabia[15]" in Arabic nations.

The aforementioned success formula can also be reflected on the human resource within project management. Meyer (2014) underpins the sad truth that the vast majority of managers who conduct business internationally have little understanding about how culture is impacting their work (p. 10). If a project manager is send for foreign assignments into host country with totally different cultural context compared to the home country. How can a project manager deal with the host culture and manage to avoid frustrations due to the cultural differences? To understand those cultural differences and to create cultural competence we must first understand what culture is. Therefore, in the following parts culture is defined and cultural dimensions are highlighted to grasp the significant differences between the host and home country. Moreover, understanding 'cultural shock' and wearing 'cultural glasses' at hand does not enhance the relationship between the client and our project managers.

4.4 Cultural awareness

Crossing cultures means adapting to the local culture, being flexible with the norms and values but most of all having '*cultural awareness*'. According to Quappe & Cantatore cultural awareness is the foundation of communication and it involves the ability of standing back from ourselves and becoming aware of our cultural values, beliefs and perceptions (2007). Why do we do things in that way? How do we see the world? Why do we react in that particular way? Cultural awareness becomes central when we have to interact with people from other cultures. People see, interpret and evaluate things in a different ways. What is considered an appropriate behaviour in one culture is frequently inappropriate in another one. Misunderstandings arise when 'I use my meanings to make sense of your reality'. There are several degrees of cultural awareness that reflect how people grow to perceive cultural differences, see figure 4.3.

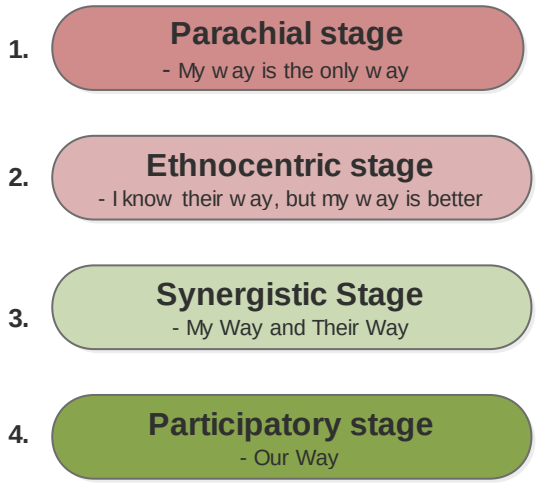


Figure 4-3: The degree of Cultural Awareness according to Quappe & Cantatore (2007)

At the first level, people are aware of their way of doing things, and their way is the only way. At this stage, they ignore the impact of cultural differences (Parochial stage). At the second level, people are aware of other ways of doing things, but still consider their way as the best one. In this stage, cultural

[14] Kosher meat
[15] Halal meat

differences are perceived as source of problems and people tend to ignore them or reduce their significance (Ethnocentric stage). At this level people are aware of their own way of doing things and others' ways of doing things, and they chose the best way according to the situation. At this stage people realize that cultural differences can lead both to problems and benefits and are willing to use cultural diversity to create new solutions and alternatives (Synergistic stage). This fourth and final stage brings people from different cultural background together for the creation of a culture of shared meanings. People dialogue repeatedly with others, create new meanings, new rules to meet the needs of a particular situation (Participatory stage) (Quappe & Cantatore, 2007). Increasing cultural awareness means to see both the positive and negative aspects of cultural differences. Cultural diversity could be a source of problems, in particular when the organization needs people to think or act in a similar way. Diversity increases the level of complexity and confusion and makes agreement difficult to reach. On the other hand, cultural diversity becomes an advantage when the organization expands its solutions and its sense of identity, and begins to take different approaches to problem solving. Diversity in this case creates valuable new skills and behaviours.

> *One Western worldview is "I am the captain of my soul," which is in contrast to the worldview of "God will provide" which other cultures hold. (Self-awareness: Becoming aware of your own worldview, n.d.)*

Ethnocentrism is to people what egocentrism is to an individual: considering one's own little world to be the centre of the universe (Hofstede, 2010, p. 387). According to Hofstede, there are different phases in which a person might be unaware of creating unhealthy basis for intercultural cooperation. The first phase is '*curiosity*', somewhat like the euphoria as discussed in the previous sub chapter. After a while the second phase sets in: '*ethnocentrism'*. The hosts will evaluate the visitor by the standards of their culture and of course this evaluation tends to be unfavourable, see figure 4.4 as an illustration. More specific, the visitor will show bad manners, appear rude, naïve, and/or stupid. When regularly exposed to the hosts, one might move into a third phase: '*polycentrism'*, the recognition that different kinds of people should be measured by different standards. Finally, the tendency to apply different standards to different kinds of people may also turn into '*xenophilia*', the belief that in the foreigner's (expatriates) culture, everything is better (Hofstede, 2010; ENR, 2003). There is a nice metaphor to further illustrate the aforementioned.

Figure 4-4: "Living in a parachial society" – *My way is the only way. How can you now define freedom?*

> ***Cultural "Come out of your shell/natural habitat":*** *"….there are these two young fish swimming along, and they happen to meet an older fish swimming the other way, who nods at them and says, "Morning, boys, how's the water?" And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes, "What the hell is water?"…"*

Fish don't know they are in water is a very comprehensive metaphor to illustrate that we people do not empathize other cultures as long as we are living in our natural habitat. We are surrounded by people who think, act and judge like us that is impossible to see that what we think, act and judge are universal truths, are just our local culture. The fishes can't see it until they get outside of it. When you think you are at the centre of the universe or when you think your country is located at the centre of the world map, then realize that your culture is not in the centre rather its off on the edge, like one petal in a flower. You might feel like the same fish who asked the question: "what the hell is water?" You must acknowledge that a culture isn't right or wrong.

In the following section the cultural differences are elaborated. In order to be specific the cultural differences between the Netherlands and Saudi Arabia are highlighted through literature. This section aims to introduce those differences for a better understanding of the cultural gap as it is mentioned in the previous section.

4.5 Introducing context Saudi Arabia[16]: differences in culture

This section aims to reflect on the cultural differences between the Netherlands and Saudi Arabia by considering some literature. In the previous sub chapters culture is presented as a phenomenon which is qualitative of nature and is difficult to grasp. In this sub chapter it is aimed to address the cultural differences between the Netherlands and Saudi Arabia by making use of the cultural dimensions. Although cultural dimensions could lead to stereotyping and approaching other cultures through own cultural lens, it provides a first handhold to understand and become conscious of cultural differences. Two literatures are used to illustrate the cultural differences. The first author is Hofstede (2010) who conducted one of the most comprehensive studies of how values in the workplace are influenced by culture. The cultural dimensions model of Hofstede is the outcome of the factor analysis done on a global survey of the value system of employees at IBM between the years 1967 and 1973. Initially, Hofstede started his research with four cultural dimensions, namely power distance, uncertainty avoidance, individualism versus collectivism and masculinity versus femininity. Later on from independent studies, Hofstede included a fifth dimension, known as long-term versus short-term orientation. The last dimension namely indulgence versus restraint came to existence through collaboration between Michael Minkov. All these six cultural dimensions[17] are illustrated in figure 4.5. According to Hofstede (2010), culture is the mind's collective programming that differentiates between one category of people and members of one group from another. The term 'category' might imply nations, religions, ethnicities, regions across or within nations, genders, organizations, or occupations. In appendix A.4.1 Hofstede's cultural dimension is further explained.

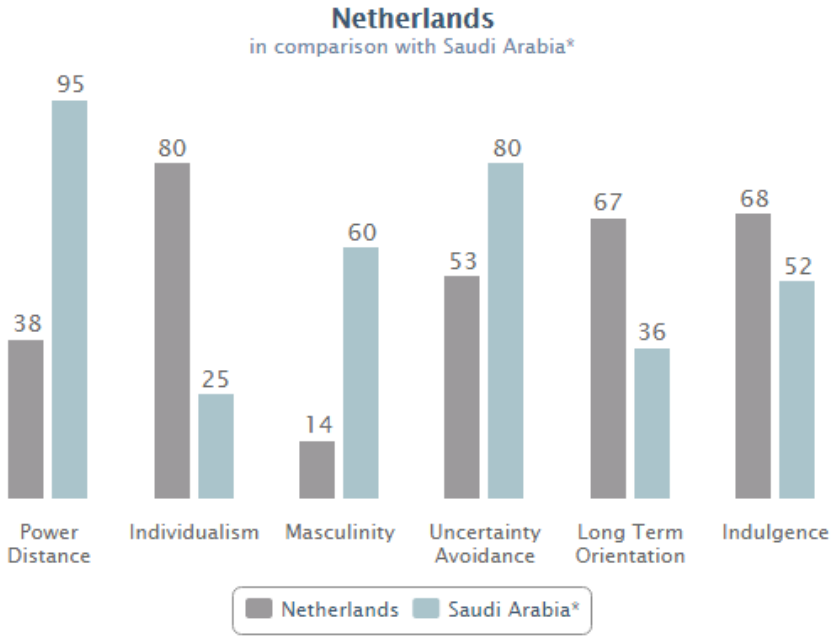


Figure 4-5: Cultural differences between the Netherlands and Saudi Arabia according to Hofstede's (2010) cultural dimensions

[16] See chapter 1 for motivation why Saudi Arabia is chosen as a case

[17] On the official website of Hofstede different countries can be compared to each other on the six cultural dimension as Hofstede propose: https://geert-hofstede.com/countries.html

A more recent study is done by Meyer (2014) based on her work at INSEAD, the "Business School for the World" based in Paris. Meyer provides a field-tested model[18] for decoding how cultural differences impact international business. The differences between the Netherlands and Saudi Arabian managers are illustrated in figure 4.6 below. In Appendix A.4.2 the cultural dimensions are explained.

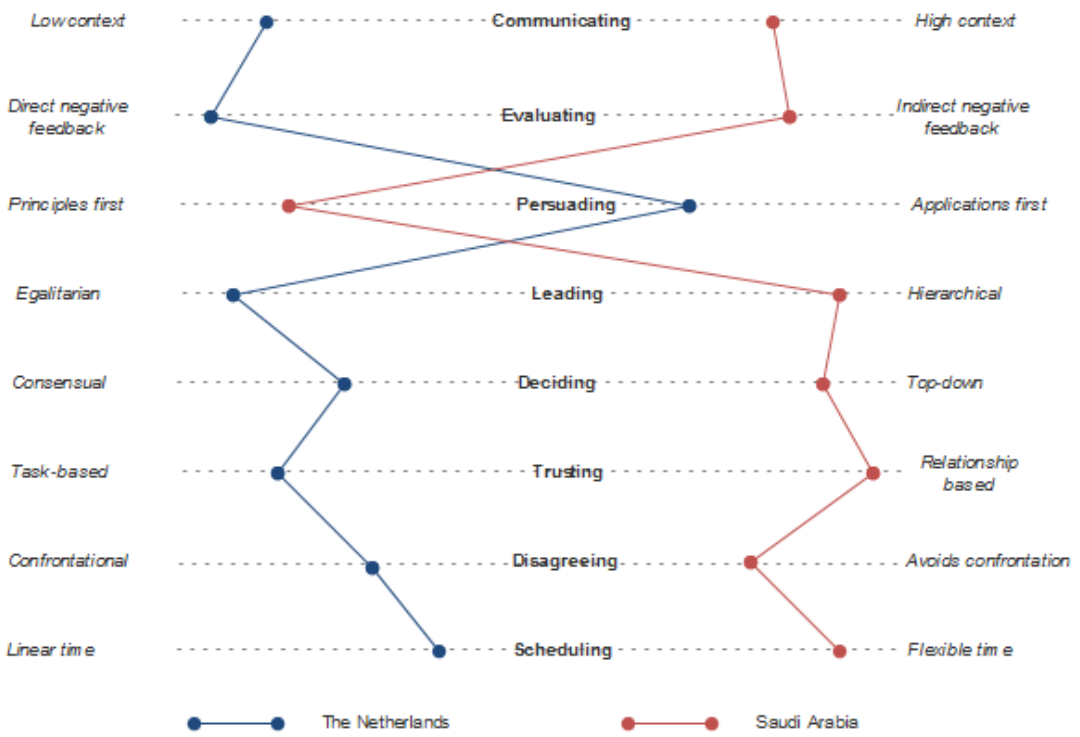


Figure 4-6: Cultural differences between the Netherlands and Saudi Arabia according to Meyer (2014)

According to Meyer's cultural dimensions the Duchess score extremely on the edges of the scale for each of the provided cultural dimensions. Duchess are blunt, rude, clumsy, direct and having difficulties with authority. These descriptions are less valued by the foreigners around the globe. This means that people tend to have difficulties with understanding our etiquettes and practices. This results in misconception and misinterpretation while dealing with other cultures. The aforementioned can easily be explained through the dimension of communication and evaluating. For instance, Dutch managers communicate explicitly and don't hesitate to give negative feedback. While Arabs communicate implicitly and thus from Duchess it is required to read the air or ask for repetition and explanation. In case of negative feedback, Arabs tend to avoid it because negative feedback can lead to loss of face and with it loss of authority.

Furthermore, states Meyer (2014) in her book that it is quite possible, even common, to work across cultures for decades and travel frequently for business while remaining unaware and uninformed about how culture impacts you. Millions of people work in global settings while viewing everything from their own cultural perspectives and assuming that all differences, controversy, and misunderstanding are rooted in personality. This is not due to laziness. Many well-intentioned people believe that if they focus on individual differences, that will be enough (p. 12). Cultural patterns of behaviour and belief frequently impact our perceptions (what we see), cognitions (what we think), and actions (what we do) (p. 14). If you take a little time to understand a person's cultural background and

[18] Meyer (2014) provides a self-assessment test on her website. Interested in your cultural profile? See how you score compared to other countries: http://erinmeyer.com/tools/self-assessment-questionnaire/

his corresponding worldview, you will be able to communicate with him more effectively and avoid the risk of misunderstanding.

According to Kist (2015a: cited from Meyer, 2014) Dutch people are too rude and too direct when doing business around the globe. "*On the whole planet there is no stranger fox than those of the Dutch people*." "*Dutch expatriates suffer frequently among international business misunderstandings than other fox"* (2015b: cited from Meyer, 2015). And according to Kist that is our own fault. The Dutch expatriate's score for most of the cultural dimensions far in the edge of the scale which means that people abroad often fail to understand our manners and habits. In addition, Dutch expatriates do not hesitate to give negative feedback according to the evaluation scale of Meyer. While in most other nations such as Asia or more collectivistic societies critic is seen as personal insult. The same goes for the British to some extent, British expatriates are more reticent with giving negative feedback and therefore communicate their critics under the lines which seldom comes over for the Dutch expatriates (Kist, 2015b). "*The British are much more formal than the Dutch; they would never ever utter direct criticism but would graciously package their comments*." In appendix A.4.3 an overview is provided on what the British say when they mean something different and how the Dutch receive the message.

Furthermore, when the matter falls into making a decision, the egalitarian Dutch expatriates score on the same position as countries where consensus is needed to reach a decision which may lead to misunderstandings with managers who are culturally tend to make decisions without any consensus like the Russians, Arabs, or Nigerians. In the following figure 4.7 this has been illustrated for different countries.

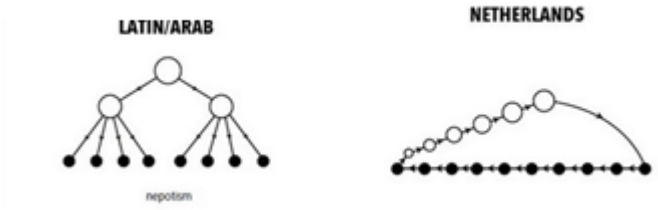


Figure 4-7: How decision making works in different countries according to Lewis (2006)

When it comes to building relationships which might have a positive correlation with trust, is that Dutch expatriates favour to make as soon as possible a deal when bargaining while most other nations such as Chinese, Russians or the Saudis prefer to build first relationship which respectively comes with trust. According to Meyer (2014) blunt Dutch expatriates do not understand this. Meyer continues that within countries where the legal system offers less legal power, trust only be build when relationships is warm.

Interestingly, her work is more tangible than the cultural dimensions of Hofstede. However, as we will see after this section, that it is not hard to correlate the dimensions of Hofstede with those of Meyer. More than a decade of research within INSEAD, an international business school, Meyer came up with eight scales, which represents one key area managers must be aware of, showing how cultures vary along a spectrum from one extreme to its opposite.

By analysing the positioning of one culture relative to another, the scales will enable you to decode how culture influences your own international collaboration and avoid painful situations (Meyer, 2014, p. 16). As we have discussed earlier, stereotyping can be dangerous. When you look at the scales, keep in mind that both cultural differences and individual differences impact each international interaction. Within the range of acceptable business behaviours in a given culture, an individual businessperson will make choices in particular situations. The culture sets a range, and within that range each individual makes a choice. It is not a question of culture or personality, but of culture and

personality (Meyer, 2014, p. 20). Thus, it is important to judge people as individuals, not just product of their environment.

When examining how people from different cultures relate to one another, what matters is not the absolute position of either culture on the scale but rather the relative position of the two cultures. It is the relative positioning that determines how people view one another (Meyer, 2014, p. 22). For example, people from task based oriented societies would think Spain is a country based on relationship, while that is crucially wrong. Countries from relationship based consider Spain to be very task based society. Thus cultural relativity is the key to understanding the impact of culture on human interactions. If an executive wants to build and manage global teams that can work together successfully, he needs to understand not just how people from his own culture experience people from various international cultures, but also how those international cultures perceive one another (Meyer, 2014, p. 23). However, there are some rules for handling cultural differences by using these eight scales.

Rule 1: Don't underestimate the challenge – Management styles stem from habits developed over a lifetime, which makes them hard to change.

Rule 2: Apply different perspectives – In multicultural team for example it might help to see the different member from multiple lenses. Thus, where a culture falls on a scale doesn't in itself mean anything. What matters is the position of one country relative to another.

Rule 3: Find the positive in other approaches – when looking at how other cultures work, people tend to see the negative.

Rule 4: Adjust, and Readjust, your position – You will need to widen your comfort zone so that you can move more fluidly back and forth along all eight.

Significant cultural dimensions

Since Hofstede introduced his approach dimensions of national culture, various authors have presented their own dimensions, sometimes similar, sometimes different and sometimes partially overlapping. The status quo in the development of research on cultural dimensions can now be qualified by two words: enriched and messy. Some scholars have attempted to bring the most likely common denominators of the dimensions together in an overview, but these attempts were based on ad hoc considerations and to understanding cultural differences through common sense (Maleki & de Jong, 2014).

Presenting Hofstede's cultural dimensions of national culture is perhaps one-way track. Various authors have presented their own dimensions, sometimes similar, sometimes different and sometimes partially overlapping (Maleki & de Jong, 2014). Maleki and de Jong ended up with nine exclusive clusters from authors as Hofstede, Inglehart, Schwartz, GLOBE, Minkov and a number of well-known qualitative authors: Individualism vs. Collectivism, Power Distance, Uncertainty Avoidance, Mastery vs. Harmony, Traditionalism vs. Secularism, Indulgence vs. Restraint, Assertiveness vs. Tenderness, Gender Egalitarianism and Collaborativeness. After analysing Meyer's dimensions it is not quite difficult to find correlations with Hofstede's model (Duguleana, 2014). In summary, the dimensions of Maleki & de Jong, together with Hofstede's and Meyer's dimensions are brought together in table 4.1 below. While this research focusses on the differences between the Netherlands and Saudi Arabia (see case study), the dimensions are limited to only five significant cultural dimensions. Simultaneously, those dimensions have overlap with Meyer's dimensions.

Table 4-1: Significant national cultural dimensions

#	Clusters Maleki & de Jong	Hofstede's dimensions	Meyer's dimensions
1	Individualism vs. Collectivism	Individualism vs. Collectivism	Persuading
2	Power Distance	Power Distance	Leading
3	Uncertainty Avoidance	Uncertainty Avoidance	Scheduling & disagreeing
4	Mastery vs. Harmony	Masculinity versus Femininity	Communicating, trusting & evaluating
5	Traditionalism vs. Secularism	Long (vs. short) term orientation	Deciding
6	*Indulgence vs. Restraint*	*Indulgence vs. Restraint*	
7	*Assertiveness vs. Tenderness**		
8	*Gender Egalitarianism***		
9	*Collaborativeness****		

** GLOBE's Assertiveness versus Tenderness: This dimension refers to the feature of being assertive and aggressive versus kind and tender in social relationships, manifested also in communication styles.*

*** GLOBE's Gender Egalitarianism: is the degree to which a society minimizes the differences in roles between genders and promotes equality and the overlap of roles*

**** GLOBE's Collaborativeness: is the spirit of "team-work". The main cultural feature this dimension would measure is the inclination of people to collaborate with each other in conducting social tasks. It is however not correlated with the dimension of collectivism because sense wise a collectivistic society does not straight forward mean that for instance team-work is strongly developed while an individualistic society such as the Netherlands has a strong developed team work. Societies enjoying higher interpersonal trust, and consequently lower uncertainty avoidance, should practice team-work more easily* (Maleki & de Jong, 2014).

Dangerous of using cultural dimensions

Various authors from completely different scientific fields have attempted to analyse and define culture by observing it at different levels and in different forms such as Hofstede, Inglehart, Schwartz, GLOBE, and Minkov (Maleki & de Jong, 2014). Measuring values by asking people's opinions through questionnaires and classifying them by statistical method is the first step to translating 'dimensions' of national cultures into numbers allowing for large-scale-cross-national comparison. However, more qualitatively oriented anthropologists have often vehemently criticized this line of thought as overly simplistic, methodologically flawed, lacking in nuances and complexity and failing to demonstrate how underlying social mechanisms operate (Heine, Lehman, Peng, & Greenholtz, 2002). Hein et al. (2002) argues that this strategy i.e. 'reference-group effects' (viewing things through the lens of the individual) should be avoided through individual-level responses.

> *"Speaking of cultural differences leads us to stereotype and therefore put individuals in boxes with 'general traits.' Instead of talking about culture, it is important to judge people as individuals, not just products of their environment."... Unfortunately, this point of view has kept thousands of people from learning what they need to know to meet their objectives. If you go into every interaction assuming that culture doesn't matter, your default mechanism will be to view others through your own cultural lens and to judge or misjudge them accordingly. "– Meyer (2014)*

As Meyer (2014) states in her book, cultural dimensions can lead towards generalization and stereotyping. However in order to grasp and to start understanding other cultures by knowing the differences of how they see things, cultural differences might provide essential insights. It could be used only as a starting point to really getting to know the opposite culture. Recognizing cultural differences is the necessary first step to anticipating potential threats and opportunities for business encounters.

Providing only literature does not help to understand culture at instance. Can we triangulate by seeking data through interviewing local Arab people or scholars who know well the Arab culture? Therefore, a first interview is held with Majid Matbouly, he works for Royal HaskoningDHV for not so long. He is hired to manage the projects externally namely the contact for the outside world. As a local he knows very well the culture. He is born in the United States but raised in Saudi Arabia. He studied electronical and mechanical engineering. The first makes him exceptional because he knows at the same time the Western norms and values and the Arab culture in its broad sense. In Saudi Arabia he has fulfilled different jobs; Ericson director for security and safety for Saudi Arabia and afterwards hired by Samsung as operational manager. Some interesting quotes are highlighted in appendix A.4.4.

4.6 Sub-conclusion and answering the sub-question three

In this chapter the cultural boundaries is studied through desk research. This chapter aimed to answer the following sub question:

If international projects are considered for example Saudi Arabian projects, then what cultural aspects form a barrier for interaction and communication for IPM role keepers and what specific competences are required?

Throughout the literature there is a huge amount of study done on culture. Many authors such as Trompenaars (1997), Hofstede (2010) and Meyer (2015) to name a few made it accessible to grasp cultural differences at instance. Understanding those cultural differences is a first step towards cultural awareness. In this chapter, two authors are considered to present the cultural differences between the Netherlands and Saudi Arabia which are Hofstede and Meyer. An attempt is made to correlate those two cultural dimensions as it can be seen in table 4.2.

Table 4-2: Summary cultural dimensions Hofstede (2010) and Meyer (2014)

Hofstede (2010)	Meyer (2014)	The Netherlands	Saudi Arabia
MAS	**Communicating**	Low-context: simple, verbose and clear	High-context: rich deep meaning in interactions
	Evaluating	Gives negative feedback directly	Prefer being indirect and discreet
	Trusting	Trust build through work relation: "you do good work consistently, you are reliable, I enjoy working with you, I trust you."	Trust build through personal relation: "I have seen who you are at a deep level, I know others well who trust you, I trust you."
PDI	**Leading**	People in groups are egalitarian (equality)	People in groups prefer hierarchy
LTO	**Deciding**	Decisions are made in consensus	Decisions are made top-down
UAI	**Disagreeing**	Disagreements are tackled directly	People prefer to avoid confrontations
	Scheduling	Perceive time as absolute linear points	Consider time as a flexible range
IND	**Persuading**	Application first: prefer holistic detailed explanations	Principles first: prefer specific cases and examples

The Internationalization has led close collaboration between nations. People coming from different countries have been framed by divergent cultural and administrative biases and fail to understand the influence this has on their actions. Increased awareness of these differences may help project managers to learn how to deal with them. As it was illustrated in figure 4.3 one can observe different levels of universalism. It is important to understand the client's culture. Gaining deeper understanding

of the rich culture can help to build better relationships with the clients and colleagues. Especially in Saudi Arabia, relationship and trust are fundamental elements to understand and maintain. Generally speaking, Arabs appreciate a working knowledge of their culture, especially being able to meet and greet in the local dialect.

For the specific competences in case of Saudi Arabia it is required that managers should have soft skills in general but most important being prepared to adapt in the environment and show flexibility. Most of the soft skills rely on a high social context which can be for example the way one approaches the other, greeting, being polite and gentle etc.

5

Conceptual framework

In the previous chapters an extensive literature study is done on the theoretical aspects/concepts. This has led to a better understanding of what we want to achieve in this research namely the implementation of IPM within international project-based organizations. This chapter forms the outcome of the previous chapters of the literature study namely the conceptual framework (also called the research paradigm). A conceptual framework is the researcher's idea on how the research problem will have to be explored. In this conceptual framework we aim to define parameters which are necessary to explore empirically in order to be able to answer the main question. Besides, the chosen path is further elaborated.

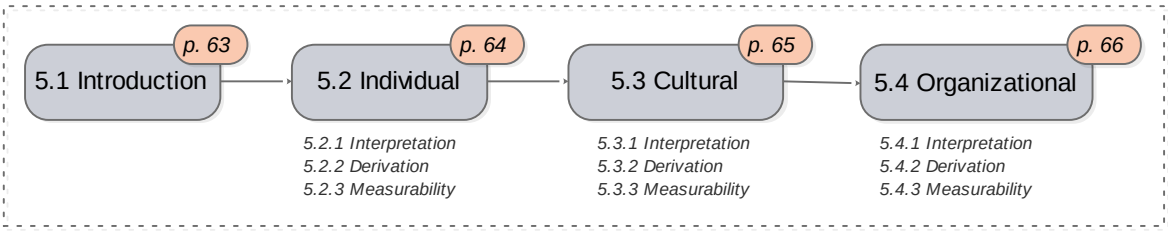


Figure 5-1: Overview chapter 5

5.1 Introduction

Conceptual framework is the researchers view on how the research question best can be answered after the key elements are highlighted in the literature study. Thus this framework is partially the result of the literature study and simultaneously the interpretation/assumption of the research on how the problem best can be approached. The components/aspects derived in this chapter are in the researcher's perspective the most significant elements which need to be studied. In other words, another researcher could approach perhaps differently with other components of units to answer the research question. Besides these research units of analysis serves also as input for the case study i.e. the practical study. This framework is built on which the researcher wants to collect empirical data in order to be able to answer the main question. This also aims to collect information to close the knowledge gap as it is stated in chapter 1. The knowledge missing in this study is on how projects are executed abroad which can be defined by how the processes are arranged, how projects are organized i.e. how project management is embedded and how culture can have impact on the previous. The view or researchers perspective to approach the problem is illustrated below in figure 5.2 and of course there are many ways to approach but in this research the data is approached on this way.

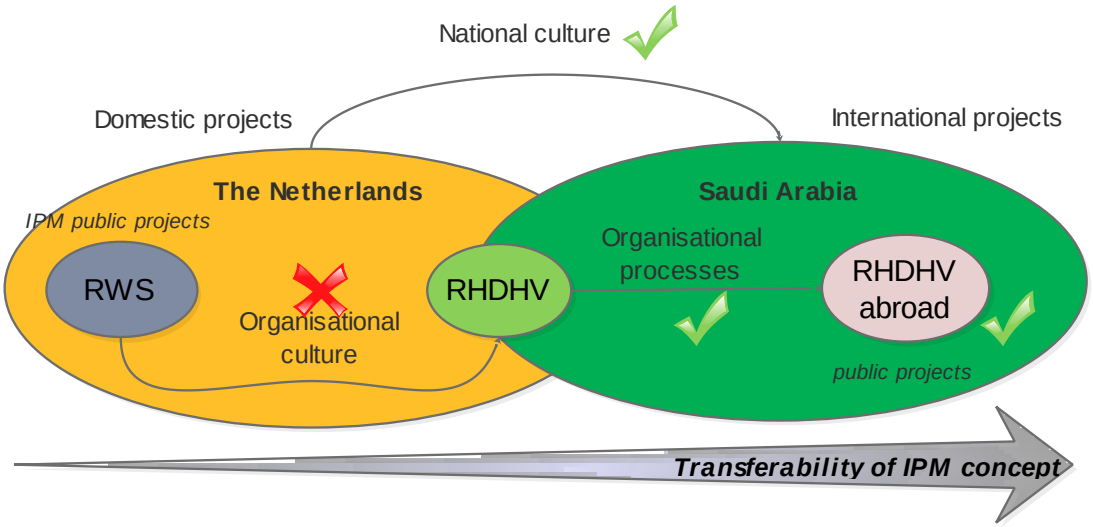


Figure 5-2: Research context and focus areas as input for executing case study

The objective of this research was to conduct a study in collaboration with RHDHV to explore whether IPM as it is embedded in the public organisation such as RWS, can enhance the efficiency of resource management, project organization, and professionalization of project management in general in international projects within project-based organisations. Therefore, it is chosen to first of all focus on the project aspect in how the individuals perceive their tasks and role in the context of Saudi Arabia, secondly in how the organization structures international projects and how support is provided to succeed the project and finally the focus is set on how the individuals experience the cultural differences and how it has impact on the previous processes and activities.

The conceptual framework approach could involve any topic in which the research wants in depth information through empirical data. This research started to pinpoint the problem of the study by addressing the complexity of different domains in project management and the way international project-based organization try to manage and control projects. One way to do so is as it is introduced in chapter 3: integral project management. IPM is a work method for public organizations to organize and structure their projects according to several role keepers with responsibilities. IPM has both benefits for project as a sub activity of the organization and it has also benefit for the organization itself namely standardization and efficiency in resource/capacity management. Thus, there is an interrelated link between the organization and its projects. The organization has impact on projects in the way the projects are supported in different processes such as resource/capacity management or the way project team members are supported with development and learning paths. IPM aims to

strengthen this link by standardization of different domains of project management and its processes as it is illustrated in figure 5.3.

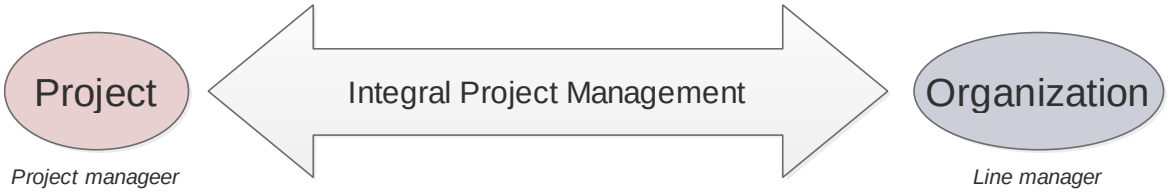


Figure 5-3: Link between organization and project

In the previous chapters the key elements of this research are outlined which were: the current state of project management as a discipline, Integral Project Management concept, and cultural theory. Each sub part is then concluded and the interrelated sub-questions are answered. From those sub-conclusions it can be observed that to answer the main question it is required to know more about how projects are executed abroad within international project-based organisations. In order to collect data on a structured way some topics are arranged which are derived from the literature study; individual (project) aspect, cultural aspect and organizational aspect. The interrelated relations are shown in figure 5.4. In next section these aspects are further elaborated.

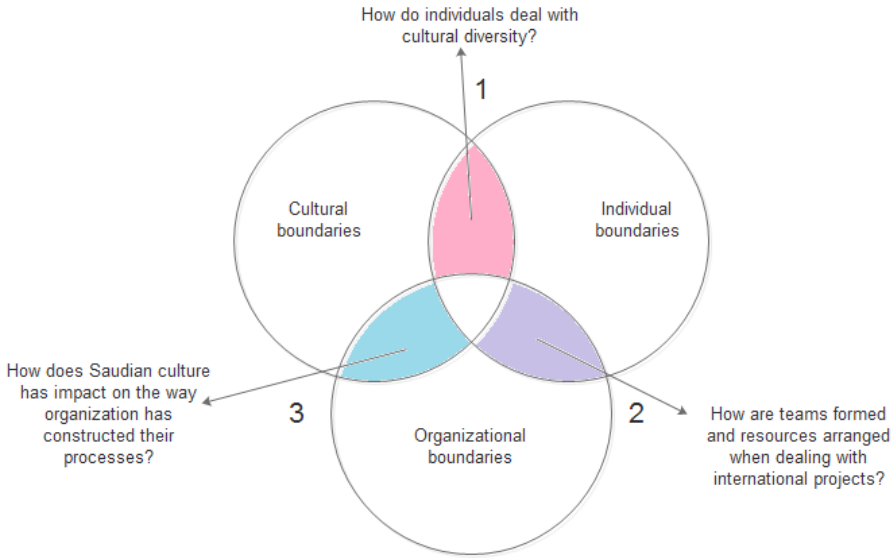


Figure 5-4: Interrelations between the parameters of the conceptual framework

Thus, the research components are: the individual experience from projects in Saudi Arabia, the cultural experience with Arabs and the last component is the experience of interviewees on the organizational processes and project support. In the next sections, these three aspects are further elaborated on how the researcher perceives them, how it is derived from the previous study and how the researcher wants to measure these aspects.

5.2 Individual (project) aspect

5.2.1 Interpretation of the aspect individual

Individual (project) aspect can be defined as an aspect which describes on the project level how individuals deal with project management issues, how they prefer activities to happen, how they perceive their environment and the manner they act on certain situations. Thus experience on how individuals makes way through the different boundaries in a certain country in order to perform excellence towards the clients. It is essential to understand how projects in Saudi Arabia are executed in terms of the individual contribution which reflects to the project aspects such as project

organization, or project management in general. Therefore, in the case study the question can be asked about the individual experiences on project management and in particular the role and tasks deviation.

5.2.2 Derivation of the aspect individual

As projects are executed/performed by people, it is assumed that the individual perspective of people can contribute to a better understanding of how projects and its processes are dealt with in a certain environment (cultural context). Previously, it is addressed that there is an interrelated connection between line management and project management. The organisational processes have impact on project performance and vice versa. Especially because of the fact that IPM is defined by its clear deviation of tasks and roles, equality of the roles and team collaboration, less is known of how this is currently embedded in projects in international projects. Therefore, from that background this topic is highlighted as significant.

5.2.3 Measurability of the aspect individual

Measuring the individual experience, ideas, thoughts, and perspectives on how projects deliver performance can best be reached through a qualitative way such as case studies whereby questions can be asked through interviews (face to face). However, it is still a matter of adjustment of how precise one wants to gain knowledge through the empirical field in reflection to the research question.

5.3 Cultural aspect

5.3.1 Interpretation of the aspect culture

International projects require another mind-set to approach the project and there within the client. Stepping outside the domestic borders one is challenged by the cultural boundaries. The further the distance between the borders the higher impact of the cultural differences on the project management processes and activities. In chapter 4 of this report the cultural component is elaborated. It is observed that there is a huge gap in cultural differences between the Netherland and Saudi Arabia. Therefore, it is helpful to have cultural awareness by acknowledging those differences and accepting that cultures cannot be defined as good or bad but rather it is how you perceive other cultures from your own (cultural) perspective. The impact of culture on the different processes and activities of IPM is shown in figure 5.5.

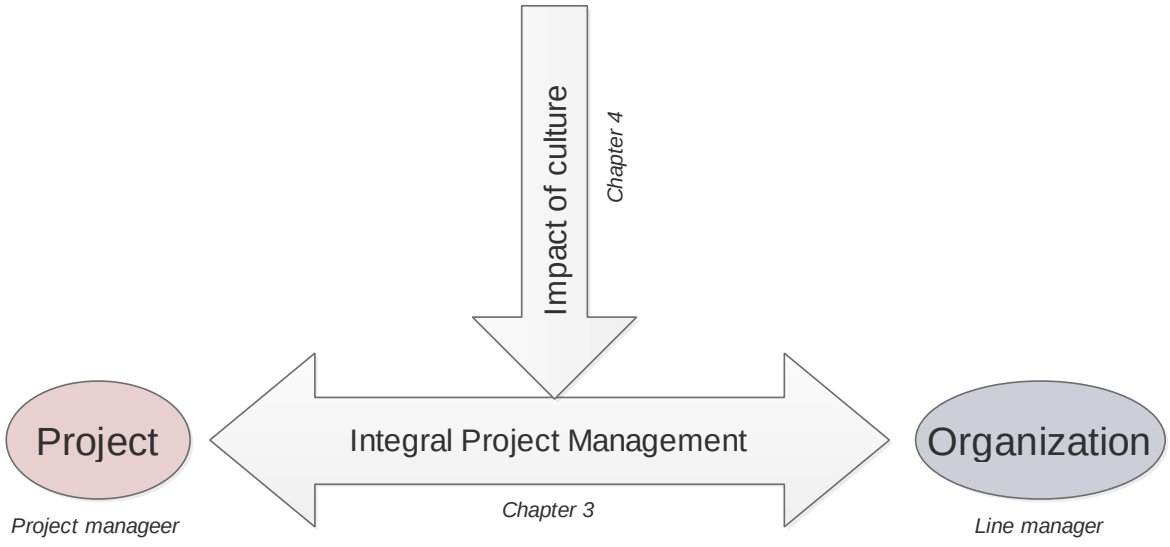


Figure 5-5: Impact of culture on the process, activities and organization of IPM in international project-based organization

5.3.2 Derivation of the aspect culture

No matter what study we are dealing with and no matter how we do it, it is a fact that going international it means meeting cultures. Cultures are not the same, cultures are rooted in people's life, it is the norm and values of how people perceive and approach things in their context. For example, how would the client in Saudi Arabia perceive what is understood under design? Or what is client's perception of meetings and agreements? Thus, activities, processes and tasks would ultimately be different when other cultural context is considered. In the previous section, figure 5.1 it is shown that considering implementation or transferability of a tool from domestic borders to other places needs closer attention. In chapter 4 of this report the cultural part is discussed.

5.3.3 Measurability of the aspect culture

To deliver understanding on the cultural aspect, it would be to generic if Hofstede's cultural dimensions are approached or any other author who is committed in dividing cultures into several dimensions such as Hofstede (2010), Trompenaars (1997) and Meyer (2014). Individuals are not the same and so one Arab is not the other. Therefore, it is considered to collect data on cultural aspect close to the individuals who experienced the cultural differences in Saudi Arabia.

5.4 Organizational aspect

5.4.1 Interpretation of the aspect organization

Previously in this chapter it is observed that the link between the organization (line management) and project (project management) is of paramount importance. Organizational aspect refers to the link between the organization and the project abroad. This component is the last aspect which should provide better insight in how international projects are executed.

5.4.2 Derivation of the aspect organization

From the prelimanary research i.e. first round interviews and the observations from the Knowledge Group Project Management it is observed that international projects success or failure is partially dependent on how the parent organization supports, or facilitates the project. Thus, international project success or failures could not only be dependent on the individual and cultural boundaries but also by the organizational decisions, activities (such as resource allocation) and processes. At this stadium some questions may raise: how are projects organized? What are the tasks of the line manager in this aspect? And how does the organization approach human resource management?

5.4.3 Measurability of the aspect organization

This aspect reflects to the process of arranging and organizing international projects by the line management and HRM. This aspect is approached on twee sub components namely the line management and HRM roles. Further, there is no such a tool or literature used to make this aspect measurable because it is aimed to understand and make it clear on how the organization supports the international projects.

Part III: Case studies

Chapter 6: *Methodology, cases introduction and initial findings*

Chapter 7: *Results*

Chapter 8: *Analysis*

6

Methodology & Exploratory Case Projects

The previous chapter elaborated on the conceptual framework which is used through the following chapters as an input. Chapter 6, 7 and 8 forms the practical part of this report. In these chapters the method, results and analysis are presented. This chapter 6 provides background information on the methodology. Which method is used to collect data on the three components as it is addressed in chapter 5? How is the data analysed? What instruments are used? Which way is the data interpreted by the researcher? These are all kind of questions which should first be explained.

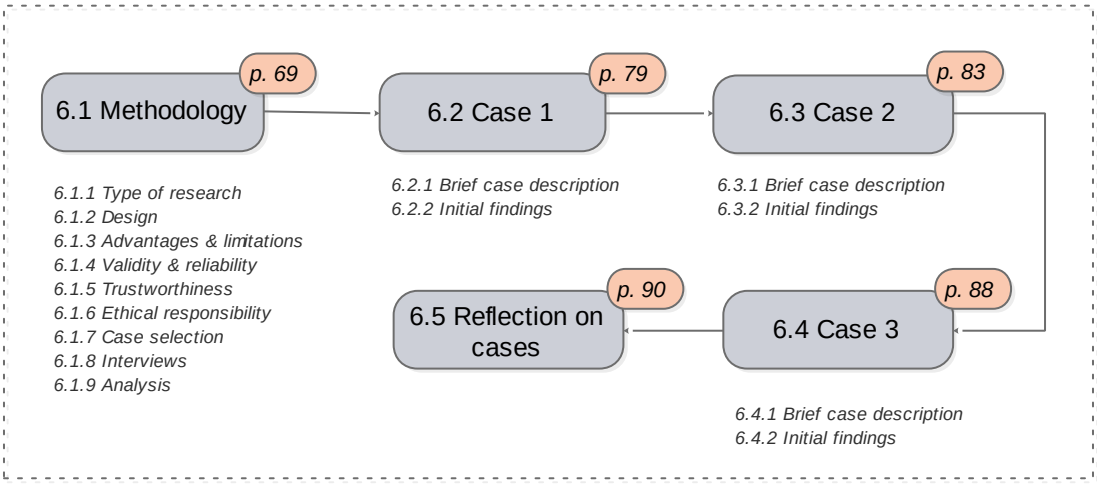


Figure 6-1: Overview chapter 6

6.1 Methodology

The conceptual framework, in chapter 5, depicted three elementary research units which should be explored. The research units are divided into three aspects: the individual aspect which reflects to IPM, the cultural aspect which reflects to chapter 4 on the cultural boundaries and an extra dimension is added which is the research unit on organizational aspect. The latter is importance because international projects are not only influenced by culture and the way projects are executed but rather how the organization structures/facilitates the processes and activities, the resources and support for expats. In order to gain knowledge and insights from the field an empirical research is conducted. In the following sections first the methodology is elaborated and afterwards the cases are introduced. In addition, the information is linked in the context of Saudi Arabia. The motivation why Saudi Arabia is chosen as a case is explained in chapter 1 section 1.5.4.

6.1.1 Qualitative versus quantitative research

Research strategy is a methodology that helps to investigate the research issue. It involves a set of decisions concerning the way the research is going to be carried out. These are;

1) Is the research objective asking for a breadth or depth research?
2) Will the nature of the research be quantitative or qualitative?
3) The type of research? Empirical or non-empirical?
4) Choosing from one of the research strategies namely survey, experiment, case study, grounded theory approach or desk research?
5) Choosing one of the variants of the strategy: comparative case study.

The strategy which should be followed must be shaped on the basis of the research framework, the research objective, and the set of research questions. Therefore, a pitfall could be that because of the iterative process of designing a research, the set of the research questions might slightly change due to the discovered data or new thoughts. Backtracking to the research, it aims to collect insights on the characteristics, motivation of the implementation, underlying arguments etc. from experts on IPM. For the second part: organizing according to IPM into Saudi Arabian projects also needs insights and understanding and opinion of experts. All this information can be collected through unstructured or semi structured interviews, because we want to know about the way of work in Saudi Arabian projects we therefore go in depth (1). Thus the open structure of the interview is a nice setup for gaining as much as possible by questioning on a subject till the details. (2) This research is of a qualitative nature. Implementing a management concept is rather complex and not as simplistic as setting mathematical standards as in case of quantitative research. This type of strategy helps when gaining understanding of underlying reasons, opinions, and motivations. It provides insights into the problem. Qualitative research is also helpful to uncover trends in thought and opinions, and dive deeper into the problem. The following definition is given by Denzin and Lincoln:

> *"At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them (2000, p.3)"*

(3) The type of research is also clear, because collecting information from experts, researcher must go out into the field in person, in order to observe and to gather or generate relevant material, and thus the research is empirical from nature and no desk research in this case. In short, one can say that the strategy of a research is bound by the type of questions. What are you looking for? And which strategy fits best for that typical question. While the main question of this research is about: Is IPM applicable in Saudi Arabian projects? Is a simple yes or no answer in first sight but it is just too complex to have a quick answer. (4) Therefore, several steps are needed; one of these steps is to ask experts who already have experience working in Saudi Arabia. Thus, we need a research strategy in which we try to gain a profound and full insight into one or several objects or processes that are confined in time and space. The characteristics of a case study as it is mentioned by Verschuren and Doorewaard (2010, p. 178) are;

1) A small domain, consisting of a small number of research units;
   Small number of research units i.e. cases. Three disciplines are chosen which are, Infrastructure, Traffic and Urban & Development.
2) Intensive data generation;
3) More depth than breadth;
4) A selective, i.e. a strategic sample;
5) An assertion concerning the object as a whole;
6) An open observation on site;
7) Qualitative data and research methods.

The case study variant is chosen on basis of literature from Yin (2009). Due to the fact that three cases are addressed in the context of Saudi Arabia[19], a comparative case study is most obvious. In short, we are dealing with multiple-case designs and embedded (multiple units of analysis).

6.1.2 Case study design

The choice for a case study strategy mainly depends on the research question. The nature of the main question in this research is explanatory. Before explaining the case study further in detail, first a definition is provided below.

> ***Definition of a case study*** *(Yin, 2009, p.18): "An empirical inquiry about a contemporary (e.g., a "case"), set within its real-world context especially when the boundaries between phenomenon and context are not clearly evident."*

According to Verschuren & Doorewaard (2010) the characteristics of a case study is that it concerns a small domain, consisting of a small number of research units. The research is more in depth than breadth and it concerns qualitative data (p. 178).

Doing case study research is a linear but iterative process as it is illustrated in figure 6.1. The process steps are subsequently; plan, design, prepare, collect, analyse and share. For this part of the intermediate report steps; planning and designing the case study are done and described. Preparing and collecting first part of the data is partially done through contacting participants and informing them about the case study. And data (confidential documents) about the projects is collected through these two steps. After meeting with the supervisors, a protocol will be setup to execute the case study interviews. Finally, the data will be analysed and shared through the final (concept) report and could also be presented into a group meeting of the different disciplines to share the knowledge. The latter could be the third round of the case study research. In short, the steps from Yin (2014) as it can be seen in figure 6.2 are chosen to be used for this research.

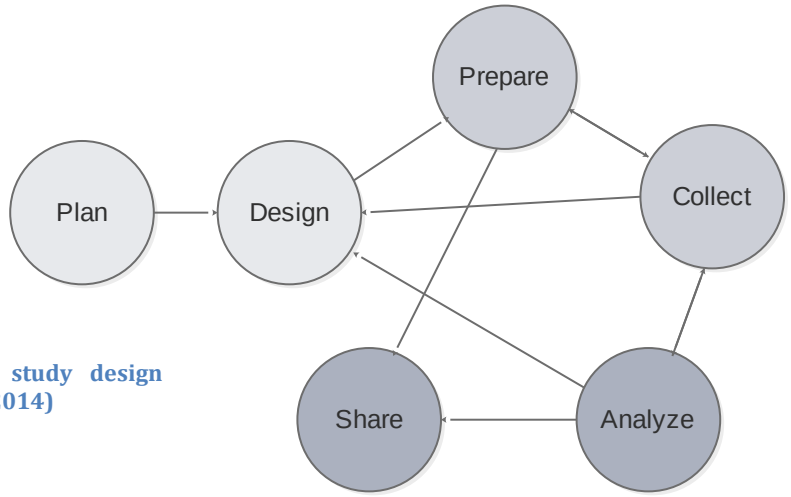


Figure 6-2: Case study design according to Yin (2014)

[19] See chapter 1 for motivation why Saudi Arabia is chosen as a case

The overall and general case study process is sketched in figure 6.3 as a flowchart diagram. First the cases will be defined by selecting the cases and setting of the case study protocol (interviews, questions etc.), preparing and collecting data which should be analysed afterwards and finally analysing and comparing the outcomes of all the cases and withdrawing conclusions.

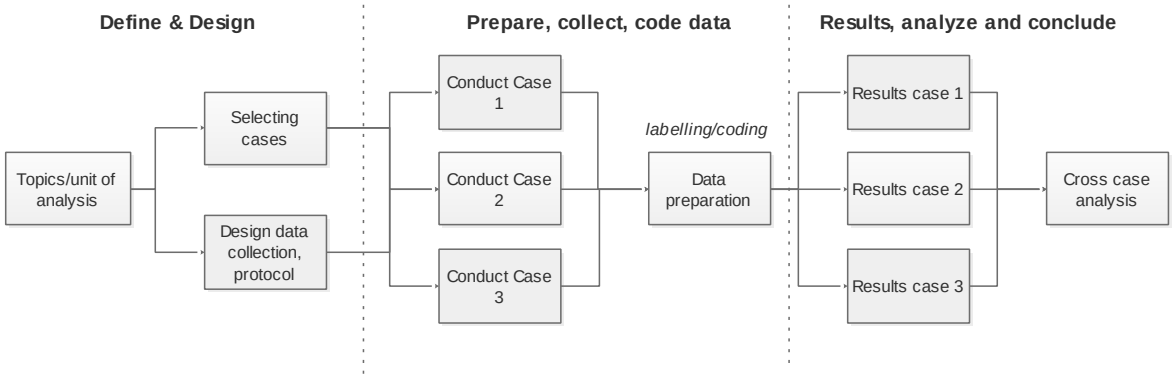


Figure 6-3: Case study process based on Yin (2014)

To choose a variant within a case study Yin (2012) divided the variants into four quadrants. First of all the choice should be made whether the case study would be single or multiple cases which then should be labelled as single-case design or multiple-case design, as it can be seen in left and right column in figure 6.4. Whether single or multiple, a second choice should be made whether to keep the case holistic or to have embedded subcases within an overall holistic case (p. 7).

Verschuren & Doorewaard discusses two important variants within a case study which are; (a) the single case study and (b) the comparative case study (2010, p.181). In the single case study only one

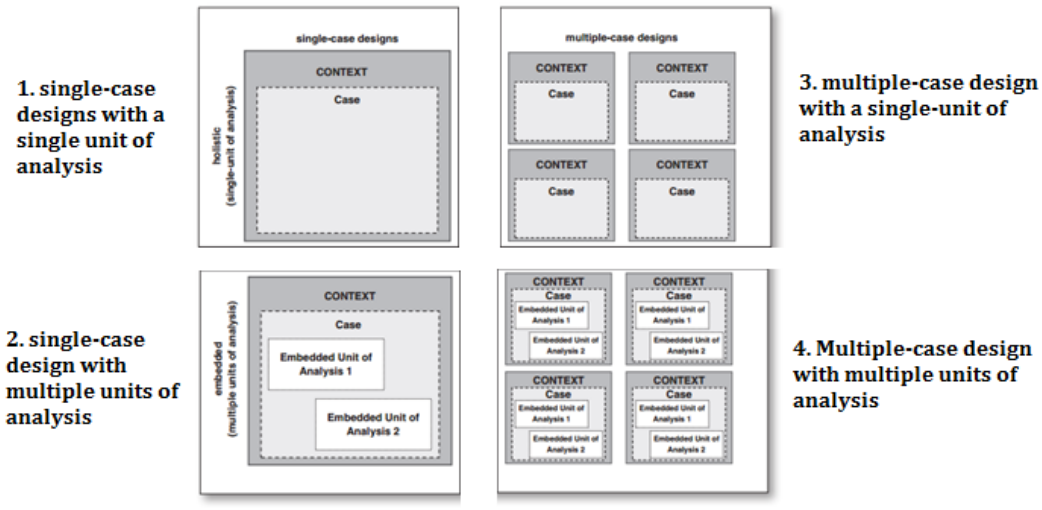


Figure 6-4: Basic types of design for case studies (Yin, 2012)

case is thoroughly examined (1). A sub variant of the single case study is a case study in which various sub-cases can be distinguished, a so called embedded case study (2). On the other side we also deal with multiple case designs with (3) single unit of analysis and (4) multiple units of analysis. Reflecting to the research, we are dealing with one context, which is Saudi Arabia. Further, we focus on three different cases from three different disciplines; traffic, infra and U&D. The units of analysis are; individual component, cultural and organizational component. Thus, partially, we have created our own type of design as it is illustrated in figure 6.5.

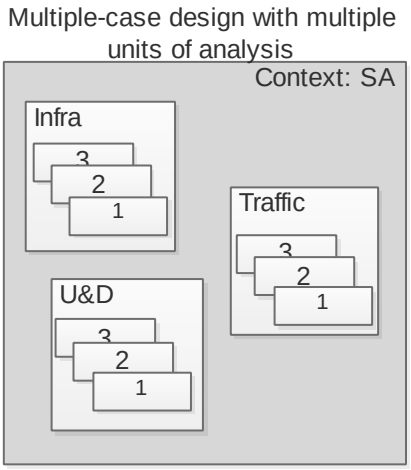


Figure 6-5: Design type of case study based on Yin (Mahbubi, 2016)

Many authors such as Eisenhardt (1989), Stake (1995) and Yin (2014) describe a case study design according to some steps. For this practical part the steps of Yin (2014) are used. Those steps are highlighted below in figure 6.6.

Figure 6-6: Case study protocol

6.1.3 Advantages and limitations

First of all case studies provide focus on the whole of the human experience and the meanings ascribed to them by participants (Jackson & Verberg, 2007). Secondly, it provides the researcher with deep insights that would not be possible using quantitative methods, which is broader than depth. In addition, the major strength of qualitative work is the validity of the data it produces and participant's true reality is likely to be reflected. However, case studies do also have their limitations. A major limitation is its perceived lack of objectivity and generalizability, in particular when small samples are available. Furthermore, researchers become the research tools and may lack objectivity. The latter can be managed by talking as less as possible during the interviews to provide room for the interviewee to give as much as needed insight on the phenomenon.

6.1.4 Validity and reliability

The principles of validity and reliability are fundamental cornerstones of the scientific method. Validity is reached by triangulation and reliability is reached by setting boundaries. The concept of triangulation involves locating an unknown point from two or more known points. In using a multitude of sources to explain an event, the findings become more valid than explaining an event from a single incident or observation (Creswell & Miller, 2000). Joppe (2000) defines validity and reliability as follows (p. 1):

> ***Definition of validity**: "Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull's eye" of your research object? Researchers generally determine validity by asking a series of questions, and will often look for the answers in the research of others."*
>
> ***Definition of reliability**: "…The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable."*

What is reliable but not valid and what is low validity and low reliability, what is not reliable but also not valid and finally both reliable and valid is illustrated in figure 6.7 below.

Figure 6-7: When are the findings reliable and also valid?
[Source: https://explorable.com/validity-and-reliability]

Validity in this case study is reached by making use of triangulation of data i.e. interviewing not only the experts on their views and opinions but also validating it with the knowledge gained through the research on culture, interview with Arab local, literature and conversation with Arab colleagues in the Netherlands. For the reliability of the findings, the case study will reflect on three different disciplines; Infrastructure, Traffic and Urban & Development. All those three disciplines are involved in Saudi Arabia.

According to Verschuren & Doorewaard, a possible disadvantage of the case study is that the external validity of the results is often under pressure. The fewer cases studies, which is often needed for achieving in depth knowledge, the more difficult it is to apply the results to a broader population of interest or to similar cases (2010, p.185). However, there are many practical advantages for using a case study. One of the advantages is that case studies can be used in any situation. In contrary to quantitative research for instance surveys need a large number of research units.

6.1.5 Trustworthiness of a qualitative research

Assessing the soundness of a qualitative study, Lincoln and Guba[20] have constructed four criteria's for the quality of a qualitative research, see also table 6.2: credibility, transferability, dependability, confirmability (1999). In addressing credibility (believability/plausibility), one attempt to

[20] http://jan.ucc.nau.edu/~mid/edr725/class/makingsense/credibility/reading5-3-1.html [accessed 25th of November 2015]

demonstrate that a true picture of the phenomenon under scrutiny is being presented. *Credibility* (in preference to internal validity) can be understood by asking the following question: "Have you, as the qualitative author, provided enough 'rich, thick description' regarding the setting, program, subjects, procedures, interactions, etc. so that the boundaries and parameters of that study are well specified?" If so then the study will indeed be 'credible' in terms of external validity. To allow *transferability* (in preference to external validity/generalizability), is to provide sufficient detail of the context of the fieldwork for the reader to be able to decide whether the prevailing environment is similar to another situation with which he or she is familiar and whether the findings can justifiably be applied to the other settings (Shenton, 2004). According to Lincoln and Guba's work, "transferability" implies generalizability if the findings and results of the study to other settings, situations, populations, circumstances, etc. (Dereshiwsky, 1999). For *dependability* (in preference to reliability), the researcher is advised to look for accurate and adequate documentation of changes, surprise occurrences, and like, in the phenomena being studied. All changes should be thoroughly described. Finally, to achieve *confirmability*, one must demonstrate that findings emerge from the data and not the researchers own predispositions. Thus, this step ensures as far as possible that the work's findings are the result of the experience and ideas of the informants, rather than the characteristics and preferences of the researcher (Shenton, 2004, p.72).

Table 6-1: Quality criteria's according to Lincoln and Guba (1999)

Quality criteria	How did I took it into account?
Credibility	Collecting data both through Arab locals (skype interview) as well as experts with Dutch background whom have been to Saudi Arabia. Matching both data with academic literature and Arab colleagues from the Netherlands.
Transferability	Providing criteria's or framework for the assessment of data at the case study. This framework can be used (as a blueprint) by another researcher to assess IPM in another cultural context.
Dependability	Changes throughout the field study could be monitored and documented throughout the results. A change could be, the parameters namely missing an informant due to his agenda or absence for any reason.
Confirmability	Confirmability can be managed by documenting the information gained by the informants through the interviews. The transcription of the interviews could be enough evidence of the confirmability.

6.1.6 Ethical responsibility

Empirical research means involving participants. For the case study different people from different disciplines are interviewed. Important is that the research, as far as possible, is based on participants freely volunteered informed consent. This implies a responsibility to explain fully and meaningfully what the research is about and how it will be disseminated. In addition, participants should be aware of their right to refuse to participate: (1) understanding the extent to which confidentiality will be maintained, (2) being aware of the potential uses to which the data might be put and (3) in some cases being reminded of their right to re-negotiate consent. Reflecting to the case study, confidentiality is relevant (Corti, Day, & Backhouse, 2000). Interviewing different people from different disciplines incites them to have a say about the other discipline. This can lead towards conflicting situation. Thus, analysing the data should be done carefully, handling the data confidentially, and last but not least, informing the participants about the overall case study setup in general terms. The focus should lay totally on their input about their situation. It is up to the research to analyse the data and have a say about the outcomes.

6.1.7 Case selection

In the introduction chapter the limitation of this research was discussed. While it was impossible to visit the country of research, therefore three cases are selected instead of one thus this study will investigate multiple cases. Outcome of multiple cases are more powerful than a single case study and it will also construct validity and reliability of the research (Yin, 2009). Due to constraint of available

cases an exclusive selection is made from available projects and in order to have cross case analysis the project have to commit some criteria as it is shown in table 6.2.

Table 6-2: Case & participant selection criteria

Case	Participant
(Infrastructural) Project executed by RHDHV	Within the projectmanagement team
Project in Saudi Arabia (Arab client)	Has visited Saudi Arabia once or more (one exception)
Project in Front End	Available in offices in the Netherlands
Available resources (e.g. documents)	
Project Management aspects involved	
Preference for delivered project or project in end phase of Front End	

The cases and participants are presented in table 6.3.

Table 6-3: Presenting cases

	Discipline	Project	City	Agent[21]	Client	Documents received
1.	Infra	KAASKAR (King Abdul Aziz Square and King Abdul Road	Jeddah	Yes, Hyder	AMANA	Technical proposal Project management plan
2.	Traffic	Road Safety Strategy Review for the city of Arriyadh	Arriyadh	No, direct interaction with the client	ADA	Technical proposal Terms of Reference (TOR)
3.	Urban & Dev.	4 industrial cities	Arriyadh	No, direct interaction with the client	MODON	Technical proposal

Amana Mohafeza Jeddah – *Jeddah Municipality is operating with a vision to transform Jeddah into a city associated with any city of world-wide standards and attractiveness based on the services offered. Due to its wide expansion on a constant basis, Jeddah Municipality's vision was to expand its infrastructure, internal systems and tools, to automate, streamline its processes, and eventually publish its services online.* **HYDER** (An ARCADIS Company) – *HYDER CONSULTING[22] the multi-national, engineering and design consultancy, renowned for many of the world's iconic projects including the world's tallest building – Burj Khalifa, Crystal Palace, London; Tower Bridge, London; Sydney Harbour Bridge, Australia; and Emirates Towers, Dubai, today announced its Middle East expansion into the Kingdom of Saudi Arabia. Hyder has acquired a majority stake in the industrial buildings division of SAK, a Saudi based architectural and engineering firm.* **ADA** – *The ADA[23], which is responsible for the socioeconomic, cultural, and environmental development of the city, devises plans and procedures to improve the standard of services and facilities provided for city residents. The ADA does not rely upon the national budget for its funding.* **MODON** (plural of the Arabic word "Medina", meaning cities) – *is a government organization created by the Government of Saudi Arabia in 2001. It is responsible for the*

[21] An agent is a person or other firm which performs between the client and the consulting firm as an auditing, review or control agency.
[22] Source: http://www.hyderconsulting.com/news/Pages/Hyder-Consulting-celebrates-its-expansion-into-Saudi-Arabia.aspx
[23] Source: http://www.britannica.com/place/Riyadh#ref991826

regulation and promotion of Industrial Estates and Technology Zones in Saudi Arabia and to encourage the private sector to become involved in the development, operation and maintenance of Industrial Estates. MODON is responsible for the development of industrial cities with integrated infrastructure and services; whereas MODON has established industrial cities in various regions of the Kingdom, and is currently overseeing more than 32existing and underdevelopment cities.

The differences in these projects are a few to be noted. First of all the different projects are spread across the country. Thus the locations are different. Secondly, the clients differ for all three projects. Third, the projects itself differ in discipline. However, there are also important similarities which help this research to focus on. First, the projects concern the initial phase of the project (FEED: Front End Engineering and Design). Second, all three projects involve different roles concerning the project management discipline such as a stakeholder manager, project manager, technical manager and in some extent also a project control manager. Further details on the involved roles will be discussed later. The three cases will be further elaborated on first findings through first round interviews. In addition, throughout these first interviews confidential documents such as Project Management Plan/Technical Proposal is obtained to analyse: (1) project management, and (2) project organization and involved roles.

6.1.8 Interviews

For qualitative research, the most employed tool for collecting information is interviews (Rubin & Rubin, 2005). Open interview questions based on the purpose of the study allowed interviewees to talk about their experience. Within semi-structured interviews the questions are pre-planned prior to the interview but the interviewer gives the interviewee the chance to elaborate and explain particular issues through the use of open-ended questions whereas a structured format may hinder the depth and richness of the responses. Subsequently, a convenient environment is chosen for the interview and the interviewee is given space to feel comfortable and relaxed (Patton, 2002). According to Weiss defining interviewing relationship is the best and sustainable way to interact with the interviewees. For example the interviewer can present himself as the means by which the interviewee can tell his story: "through me you can make your story known." (1994, p. 66). After permission of the participants, the all individual interviews are recorded to ensure that on a later stage all relevant information is considered to draw conclusion and simultaneously it improves the quality of the analysis because the interviews will be transcript. Transcribing data guarantees that the researcher will stay close to the reality of the data and not lose sight into his interpretation during the analysis. In addition, to comfort and encourage the interviewees for opening-up during the interviews, recommendation is followed by several authors such as Patton (2002) and Rubin & Rubin (2005). For example: making use of introductory questions, asking easy questions first, showing empathy, encouraging by carefully listening, and closing while maintaining contact for validation of transcripts and follow-up questions.

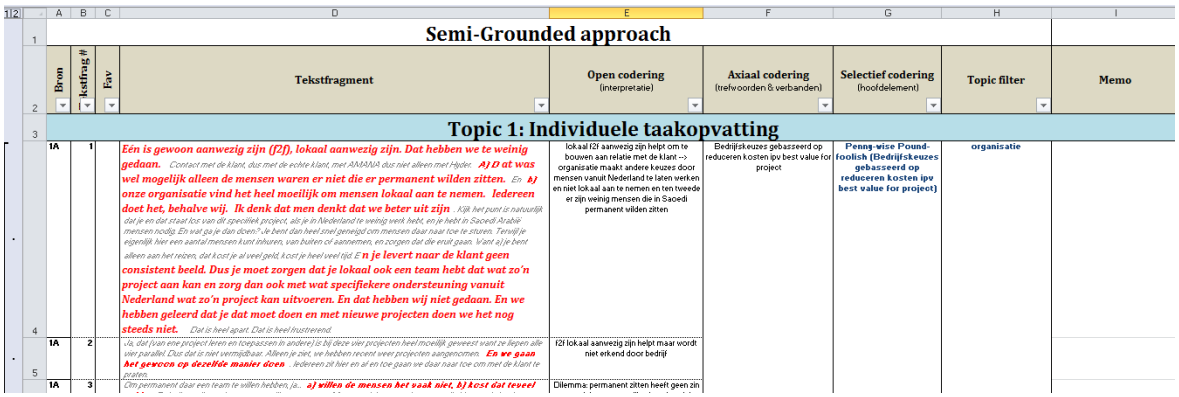
6.1.9 Analysis

Case study analysis can rely on several techniques whose use might even be anticipated during the initial design of the case study; the analysis can be presented throughout a case study, as one gradually build an argument that addresses ones research questions (Yin, 2004, p. 16). The main reason for using a case study strategy is to answer through several sub questions the main question. The data can be presented in a sequence of time. Each data outcome is analysed first and after compared within the same discipline for that particular criterion. Afterwards, the data output for that particular criteria is compared within all three disciplines and presented in a discussion form. The different steps to prepare data to be presented in the report were as follows (Rubin & Rubin, 2005; Patton, 2002; Weiss, 1994; Zee, 2015; Tubbing, 2015):

- All interviews were first transcribed in Office Word 2010;
- Irrelevant information is wiped out;
- Each interview is scattered in fragments and afterwards labelled;
- All those fragments are then exported to Excel software to be coded;
- As research it was inevitable to read through data several times. All the data were structured in the initial topics namely individual, organizational and cultural levels. In Excel filter macro is used to analyse the data per interviewee or per discipline.

- First step is to open coding which means that each fragment is interpreted and summarized in short notes. This step was already done in Word. This way the research knows what each fragments tells about. Besides, each fragment can have different labels.
- The next step is to start with Axial coding which means that after re-reading the data the research is able to find causal relations between the data. Those fragments are labelled with the same code. It must be noted that these steps are highly iterative process. Axial coding ensures for a uniform and valid coding. Through this step the researcher will find relations, links, themes, and groups.
- Last step of coding is selective which is actually not coding but rather the researcher seeks for finding a theory: through constantly comparison of the data and the relations between the fragments. Besides, relations can be assigned to data during the analysis to concepts which iteratively observed.

This process of coding is iterative and stops when saturation is reached. The aim of these different steps within analysis is to find a theory or sub part of that theory which helps the researcher to answer the main question. The Excel overview of the codebook is shown in figure 6.8.



	A	B	C	D	E	F	G	H	I
1	Semi-Grounded approach								
2	Bron	Tekstfrag #	Fav	Tekstfragment	Open codering (interpretatie)	Axiaal codering (trefwoorden & verbanden)	Selectief codering (hoofdelement)	Topic filter	Memo
3	Topic 1: Individuele taakopvatting								
4	1A	1		Eén is gewoon aanwezig zijn (f2f), lokaal aanwezig zijn. Dat hebben we te weinig gedaan. Contact met de klant, dus met de echte klant, met ANANA dus niet alleen met Hyder. a) D at was wel mogelijk alleen de mensen waren er niet die er permanent wilden zitten. En b) onze organisatie vind het heel moeilijk om mensen lokaal aan te nemen. Iedereen doet het, behalve wij. Ik denk dat men denkt dat we beter uit zijn Kijk het punt is natuurlijk dat je en dat staat los van dit specifiek project, als je in Nederland te weinig werk hebt, en je hebt in Saoedi Arabië mensen nodig. En wat ga je dan doen? Je bent dan heel snel geneigd om mensen daar naar toe te sturen. Terwijl je eigenlijk hier een aantal mensen kunt inhuren, van buiten cq aannemen, en zorgen dat die eruit gaan. Want a) je bent alleen aan het reizen, dat kost je al veel geld, kost je heel veel tijd. E n je levert naar de klant geen consistent beeld. Dus je moet zorgen dat je lokaal ook een team hebt dat wat zo'n project aan kan en zorg dan ook met wat specifiekere ondersteuning vanuit Nederland wat zo'n project kan uitvoeren. En dat hebben wij niet gedaan. En we hebben geleerd dat je dat moet doen en met nieuwe projecten doen we het nog steeds niet. Dat is heel apart. Dat is heel frustrerend.	lok aal f2f aanwezig zijn helpt om te bouwen aan relatie met de klant --> organisatie maakt andere keuzes door mensen vanuit Nederland te laten werken en niet lok aal aan te nemen en ten tweede er zijn weinig mensen die in Saoedi permanent willen zitten	Bedrijfskeuzes gebasseerd op reduceren kosten ipv best value for project	Penny-wise Pound-foolish (Bedrijfskeuzes gebasseerd op reduceren kosten ipv best value for project)	organisatie	
5	1A	2		...ja, dat (van elke project leren en toepassen in andere) is bij deze vier projecten heel moeilijk geweest want ze liepen alle vier parallel. Dus dat is niet vermijdbaar. Alleen je ziet, we hebben recent weer projecten aangenomen. En we gaan het gewoon op dezelfde manier doen ...iedereen zit hier en al en toe gaan we daar naar toe om met de klant te praten.	f2f lok aal aanwezig zijn helpt maar wordt niet erkend door bedrijf				
6	1A	3		Om permanent daar een team te willen hebben, ja... a) willen de mensen het vaak niet, b) kost dat teveel	Dilemma: permanent zitten heeft geen zin				

Figure 6-8: Overview of Excel codebook

The reporting of case studies can be a long written text without any structure. Therefore, Yin (2009) states five techniques to analyse data from case studies: pattern matching, explanation building, time-series analysis, logic models and cross-case analysis. For this research is chose to do a cross-case analysis because the interviews are considered by the units of analysis: individual, organizational and cultural levels.

Figure 6-9: Design of King Abdul Aziz Square and King Abdul Road (RHDHV, 2014a)

6.2 Case 1: Design of King Abdul Aziz Square and King Abdul Road – Infrastructure project

6.2.1 Brief case description

The Municipality of Jeddah, AMANA, is the client for the program '*design of the Grade Separated Junction of King Abdul Aziz Square and improvement of King Abdullah Road*' (KAASKAR). The main objectives of the project were (1) the improvement of road safety and relieve traffic congestion, (2) improvement of the urban real, and (3) improvement of the aesthetics in a sustainable way (RHDHV, 2014a). According to the same Project Management Plan (PMP) the deliverables were, inter alia concept design (CD), Preliminary Design (PD), and Detail Design including tender documents. The aforementioned deliverables including a geotechnical survey report and topographical survey was budgeted around 2.5 million euros. The King Abdul Aziz Square is an important junction within the Jeddah strategic transportation network. The junction is located adjacent to Al Andalus and Al Salaam Shopping Malls and only two kilometres from Al Haramain. Expressway, which provides direct access to the two Holy cities of Makkah and Madinah. Improvement of the King Abdul Aziz Square along with the King Abdullah Road will provide the citizens of Jeddah a safe, sustainable, aesthetically pleasing and reliable multi-modal transport route. It will adequately serve the needs of the adjacent developments and the people who use them. The project will facilitate the growth and development of the City of Jeddah around the old airport site, including Jeddah Gate, the Heart of Jeddah, the Jeddah Metro system and the Haramain High Speed Railway Station. The project map is illustrated in figure 6.10 below.

Figure 6-10: Project KAASKAR (Source: Google Maps)

The project prepares a study, the detailed design and the tender documentation for the improvement to the safety, urban realm and aesthetics. The project anticipates a 3-level grade separated intersection with the Prince Majid Road, a haunched bridge, an elevated viaduct and a land mark structure. The major project activities are listed below:

- Data collection and review of existing data;
- Conducting traffic, geotechnical and topographic surveys;
- Traffic modelling and transport planning;
- Road safety audit;
- Conceptual design of three alternatives;
- Preliminary design;
- Detailled design and tender documents, including bill of quantities;
- Support to the tender procedure.

6.2.2 Initial findings

All the work of the consultant is reviewed by a second consultant, in this case Hyder consulting. The client ensures that the work is done on high quality standards. Saudi Arabia is a country which scores high on the uncertainty avoidance index from the cultural dimensions of Hofstede (2010). Logically, it is a wise way to ensure things are done in the right way when you do not have the expertise by yourself. To illustrate this dimension another example is given on contracting by Leijten (2015). According to Leijten, Arabs do not have the expertise and knowledge to handle contractual issues and overall risks of the projects. This means, that most of the projects are tendered in accordance with Lump Sum contracts. Within Lump Sum contract the contractor or engineering firm agrees to provide specified services for a stipulated or fixed price. The client assigns all the risks to the engineering firm or contractor.

In addition, the environment the infrastructural projects are extremely complex according to Kardas (2015). Kardas argues that the work of Infrastructural projects in Jeddah is strictly assessed by Hyder Consultancy. All inputs from the client, AMANA are one on one translated to our managers. Secondly, we are dealing thus with a high complex environment with even third parties involved. That the environment is complex, has also been experienced by several other stakeholder managers and even by a cost expert who's background is Arabic. In contrast, Al Shekhli discusses that the Municipality made the work difficult to find information on the technical elements such as the Geotechnical information around the project. Thus gaining information by the Municipality itself was a hard issue. While an attempt to get the information from third parties was a more easy way (2015a).

The project team exists of a project manager, project control, design manager, stakeholder manager, architect, highway engineer, traffic engineer and structural engineer. If the involved roles are reflected to an IPM team (see chapter 3) then the last four roles; architect, highway engineer, traffic engineer and the structural engineer would be under the responsibility of the design manager. As it was concluded earlier in chapter 3 on IPM, is that there is a paramount notion on the role of a contract manager. A contract manager typically appears in the realization phase of the project to be the designated person for the market. Thus, in the realization phase, the project manager shifts into the role of a contract manager, whereby he will be the accounted role for the market. Especially, in a society with high power distance this is crucial because higher hierarchical figures tend to always search for the boss rather than the sub ordinates even if he needs something concerning the technical issues. In short, considering the roles above in the project KAASKAR we can conclude that almost all IPM roles are involved. The technical staff belongs under the responsibility of the design manager which is called the technical manager within IPM team.

In the PMP it is mentioned that within the internal constraints the design manager and most other project staff who visits the host country are relatively new to the environment and its working conditions. Thus beforehand, the matters of cultural issues are taken into account. However, no specific steps or plan is included in how to deal with these issues (RHDHV, 2014a, p. 10). In addition, within the external constraints it is noted that the consultant (RHDHV) is responsible for communication with third parties to obtain relevant available existing information as part of the data collection. It has been taken into account that illogical resistance from stakeholders against certain options might hamper proper development of plans. The aforementioned, illustrates that for this project several issues can raise which can hinder the overall process which can lead to overrun in planning and costs. According to the PMP the following internal management structure of the project is extracted and highlighted below in figure 6.11.

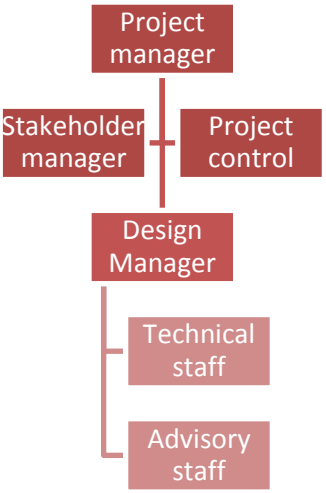


Figure 6-11: Internal Project Organization structure project KAASKAR based on the original structure from Project Management Plan (own ill., 2016)

As it is earlier explained, in case of Infrastructure the work/deliverables and even payments are done by an agent. An agent is a person or other firm which performs between the client and the consulting firm as an auditing, review or control agency. In this case the agent was Hyder Consultancy. The client AMANA hires consultants from Hyder to assess work of RHDHV. Thus there is no one on one relation with the actual Arab client but all work is done through Hyder. In figure 6.12 the communication lines between the parties is illustrated. Obviously, this has huge impact on the communication (interpretation) between the sender (AMANA) and receiver (RHDHV).

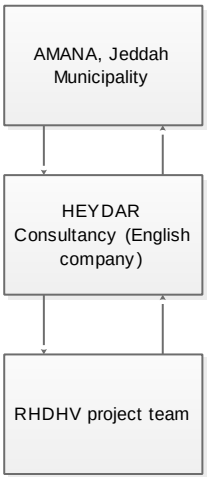


Figure 6-12: Communication lines between the involved parties (own ill., 2016)

Figure 6-13: Riyadh's traffic congestion (source: www.rhdhv.com)

6.3 Case 2: Road Safety Strategy Review for the city of Arriyadh – Traffic project

6.3.1 Brief case description

Over the past decade, the population in the Riyadh region has increased to about 6 million inhabitants in 2013. A downside of this growth has been a significant increase in road accidents, fatalities and injuries. An unfavourable trend in road safety was the reason why Arriyadh Development Authority (ADA) started to develop and implement a first five years road safety strategy in 2004. The second road safety strategy was developed in 2009 which has been implemented in the last five years. The effects of this strategy need to be reviewed and a new five years road safety action plan 2014-2019 needs to be developed (ADA, 2013; RHDHV, 2014).

The scale and scope of economic development of the Kingdom of Saudi Arabia (KSA), and the city of Riyadh in particular, over the past decade has been tremendous. Whilst the economic growth has produced a lot of economic benefits, it has also created a considerable growth in the transport of persons as well as of goods. A downside to this growth has been a significant increase in accidents, fatalities and injuries. The crash rate in KSA based on fatalities per 1.000.000 population is five to six times higher than the crash rates of world's best practice countries such as the Netherlands, Sweden and the United Kingdom. Road safety strategies should include elements to improve road user behaviour, vehicle safety and road infrastructure. The strategy covers the following 11 components (RHDHV, 2014):

- Road safety management coordination and funding;
- Improved data collection and analysis system;
- Road safety engineering activities;
- Traffic law enforcement;
- Improving driving standards;
- Improving vehicle inspection;
- Road safety education for school children;
- Road safety publicity and awareness;
- Emergency medical services;
- Motor vehicle insurance;
- Road safety research and accident costs.

6.3.2 Initial findings

Case 2 reflects a study to review the traffic safety situation in the city of Arriyadh. The client regards the Arriyadh Development Authority (henceforth: ADA). ADA is responsible for the socioeconomic, cultural, and environmental development of the city, devises plans and procedures to improve the standard of services and facilities provided for city residents. The ADA does not rely upon the national budget for its funding (Kim, n.d.). ADA had recognized the seriousness of road safety problem within the city, and the need to develop a comprehensive strategic approach to improve the road safety, and reducing the number of fatal and serious injury accidents (ADA, 2013, p. 1). The main objective of this project is to review the traffic safety situation in the city of Arriyadh, review the role of stakeholders and develop a new five years action plan. In addition, carry out cost benefit analysis to arrive at the most cost effective actions that will achieve best results (ADA, 2013, p. 2). The process in short is that the client offers and invites a consultant to hand in a proposal in accordance with the Terms of Reference (TOR). According to the Terms of Reference (TOR) document provided by the client, ADA will nominate a staff member with experience in the field of the study, to be the prime contact for the consultant for the duration of the project (ADA, 2013, p. 6).

A high level chart of the project organization between the client, the consultant and third parties is illustrated in figure 6.14 below. To deliver high qualified pool of specialists for the multidisciplinary project, RHDHV has concentrated their strengths with RDW (Dutch Authority for Driving Licenses and Vehicle Regulations) and SWOV (Dutch Institute for Road Safety Research) (RHDHV, Arriyadh Traffic Safety Review - Technical Proposal, 2014, p. 41). RHDHV is the leading partner for this project and will be responsible for delivering the project manager and most of the key specialists.

For this study experienced specialists are selected and brought under the supervision of a project manager. The project manager is responsible for the whole project team. While this study concerns a multidisciplinary project, a project assistant will support the project manager in the overall project management and the coordination between the specialists. The project organization chart with the project manager and all specialists are shown in figure 6.15.

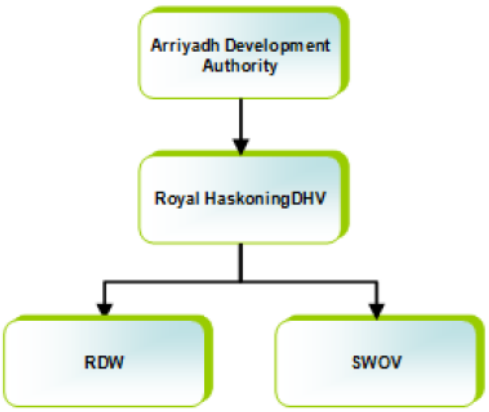


Figure 6-14: High level chart of the project organization (RHDHV, Arriyadh Traffic Safety Review - Technical Proposal, 2014)

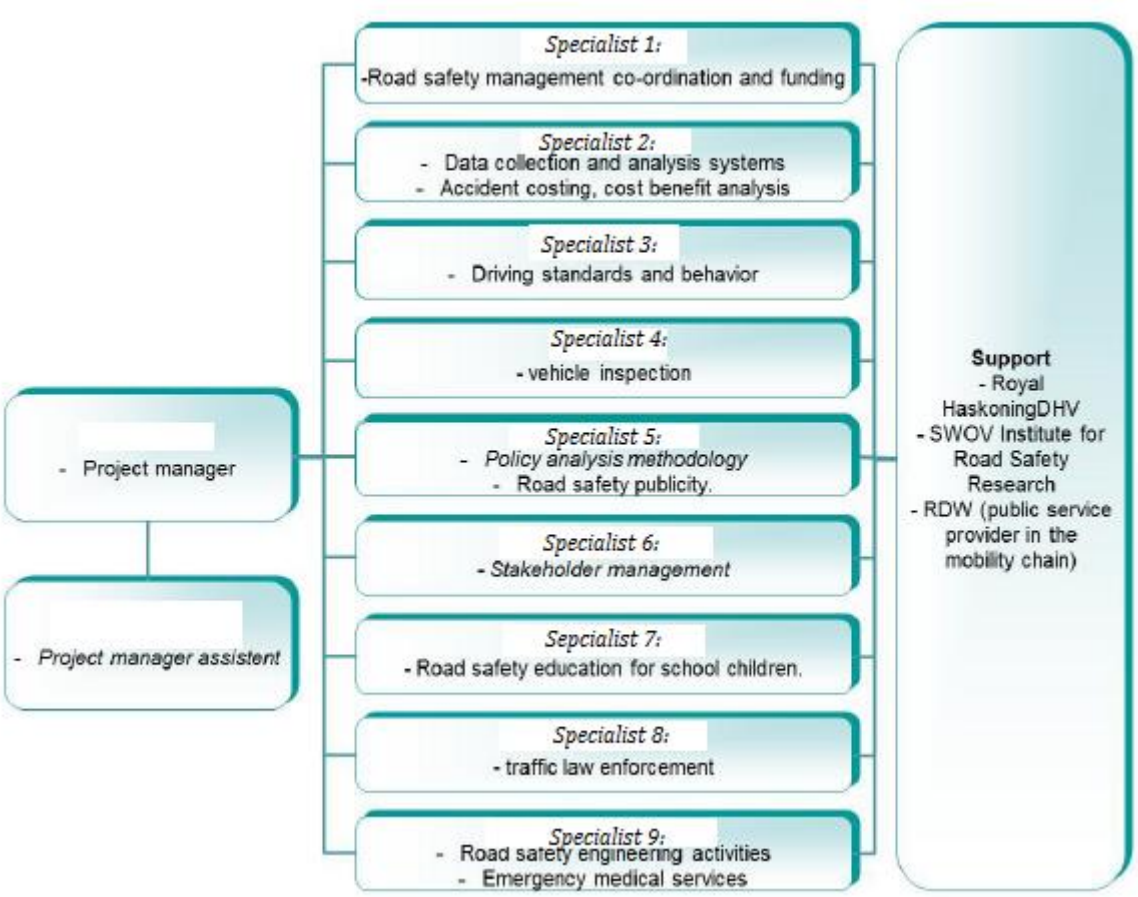


Figure 6-15: Project organization chart with project manager and specialists (RHDHV, 2014, p. 37)

According to Coopmans (2015) the paramount communication line is between the ADA project manager and the project manager from RHDHV. This is illustrated in figure 6.16 with a project organization chart from previous project.

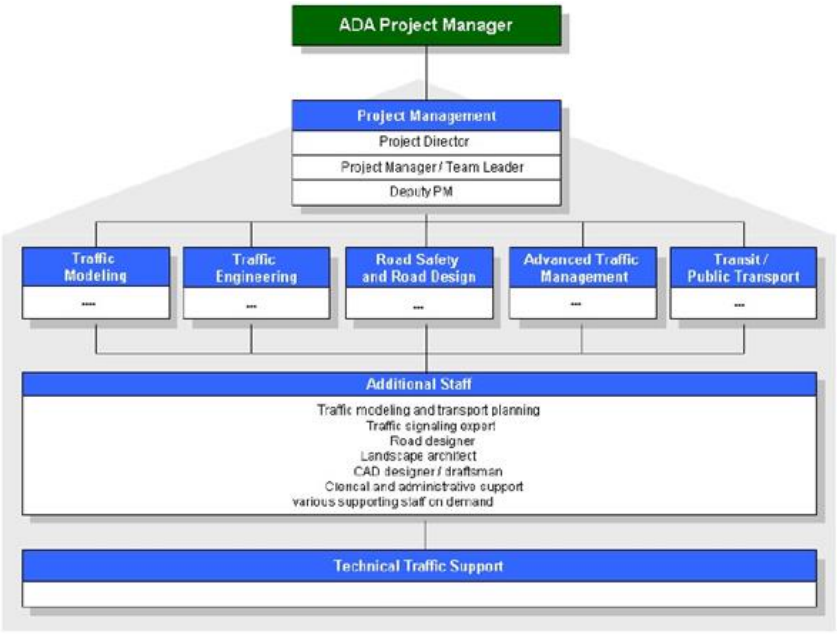


Figure 6-16: Project organization chart old project within Traffic discipline (Coopmans, 2015)

It is noteworthy to mention that according to Coopmans (2015) there is seldom one on one contact or communication between the specialists from RHDHV and ADA. Likewise, higher contacts with project managers or directors go through the daily management team. The seriousness and how risky a role is, is dependent on scope, and complexity of the assignment. Furthermore, Coopmans (2015) explains that the project organization is dependent on (in sequence) (1) the expertise needed for the project, (2) the complexity of the project, (3) clients organization (mirroring), and last but not least the dependence on external stakeholders.

Furthermore, in figure 6.17 the mobilization chart is illustrated. In this chart one can notice the frequency of visits to Saudi Arabia by the team members of this project. The project manager's regularly visits the project on a monthly basis. According to RHDHV, regular visits and contact with ADA is crucial to succeed the project. However, one can argue if these short visits contribute into the cultural adaptation process of the project manager and whether this can enhance the cultural harmony between RHDHV project manager and ADA project manager.

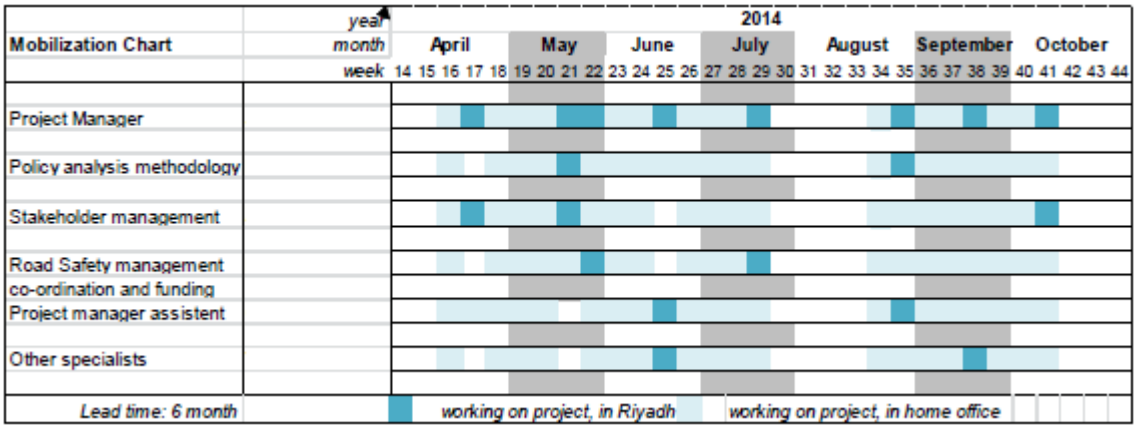


Figure 6-17: Mobilization chart, who works on the project when and where? (RHDHV, 2014, p. 35)

From the previous work done by Traffic discipline in Saudi Arabia, Coopmans (2015)explains the appreciation of our work by the Arab clients. The reckoning is primarily due to;

1) The professionality of our people and work (specialism on deliverables),
2) Empathizing the client which means;
    a. Approach by face to face conversation rather than communication through electronic ways;
    b. Taking time to build trust by avoiding business matters at initial moments;
    c. By avoiding blunt attitude or directness;
    d. Knowing the counterpart is crucial, even so key figures;
    e. Before sending people to Saudi Arabia, managers and specialists within Traffic are screened on competence and attitude (on intuition);

> *"Appreciation of our work by the Arab client can also be observed when the client asks us for dinner or going out together. This gives a good feeling that trust is warm" (Coopmans, 2015).*

Coopmans argues that while most of people think Arabs are inadequate (in professional level of negotiating, decision making, communicating etc.), the opposite is true. The responsible ones and most of time the project managers and high educated people have enjoyed foreign studies in high classified universities in USA and UK. However, Arabs are well known on their lazy attitude (restrained attitude and no pro-active work attitude) but they are precise when assessing the delivery. Contracts ae strictly followed and designated to when needed. Often a professor is hired to examine the work deliverables and thus gives second opinion.

ADA is the main key client in Saudi Arabia with over 10 years of relationship according to Coopmans (2015). In one of the projects for ADA two project leaders were appointed; one for the process and one for the content. The process including financial issues was the responsibilities of Coopmans (internal oriented) while the content was done by someone else. Another team member with Arab background was external oriented towards the client and stakeholders. This person with Arab background acted in some cases even as the project director/manager towards the client in order to get things done smoothly while speaking fluently the Arab language. This helps to enhance the communication. In the same time Coopmans act as an internal director towards the group/team.

When the matter is on contracts or the deliverables then there might be some priority whether which contract terms to follow. According to Coopmans (2015)the following priority is given on work and deliverables;

1) Specific contract conditions;
2) Generic contract conditions;
3) Reference for proposal (RFP);
4) Proposal consultant.

For instance, if there is a disagreement regardless the matter on hand than first of all is looked into the specific contract conditions (significant) rather than Reference for Proposal (RFP).

Finally, Coopmans (2015) agrees that religion has huge influence on our business. Every norm and value or behaviour is interacted with the belief in God. For instance, five daily prayers interrupt running meetings or business hours and business is avoided during month of Ramadan and Eid.

Figure 6-18: Waad Al Shamaal, one of four the industrial cities (source: www.bechtel.com)

6.4 Case 3: Design of Four Industrial Cities – Urban Development project

6.4.1 Brief case description

The Saudi Industrial Property Authority (MODON) is responsible for the development of industrial cities with integrated infrastructure and services. MODON has established industrial cities in various regions of the Kingdom, and is currently overseeing 34 existing and underdevelopment cities. It is targeted that during the coming five years, the number of the industrial cities shall reach 40 cities with more than 178 million square meters of developed industrial lands (MODON, n.d.). In this case the four industrial cities are awarded to RHDHV. Initially, a first project is executed by RHDHV for this client which was Al Kharj industrial city. The four industrial cities are: Waad Al Shamaal, Sudair, Gurayat, and Madinah. For each city a master plan is drawn and afterwards a conceptual design for the infrastructural needs and this phase is closed with a (partial) detailled design for infrastructural work which includes both residential and heavy industry including all traffic roads (RHDHV, 2014). For master planning a lot of input is required by the stakeholders.

6.4.2 Initial findings

The Saudi Industrial Property Authority MODON has invited RHDHV to submit a Proposal for the Framework Agreement Design Services for a series of new industrial cities in the Kingdom. The ambition of the Saudi government is to enhance and diversify economic development. In a time span of 2 years at least 10 large and 13 smaller industrial cities are to be designed as convenient development locations in the Kingdom (RHDHV, 2014, p. 3). In figure 6.19 the intended approach to manage the framework is shown. The project director forms a paramount link towards the client senior management but also remains responsible for allocating staff from the support team, chairman of the knowledge team and overall responsible for the program (p. 12). The project director is simultaneously the link between the MODON senior management and the Executive Board of RHDHV. The area which we deal here, is a large square area approximately depending on the project around 10 by 30 km. thus a huge area which is empty and desert.

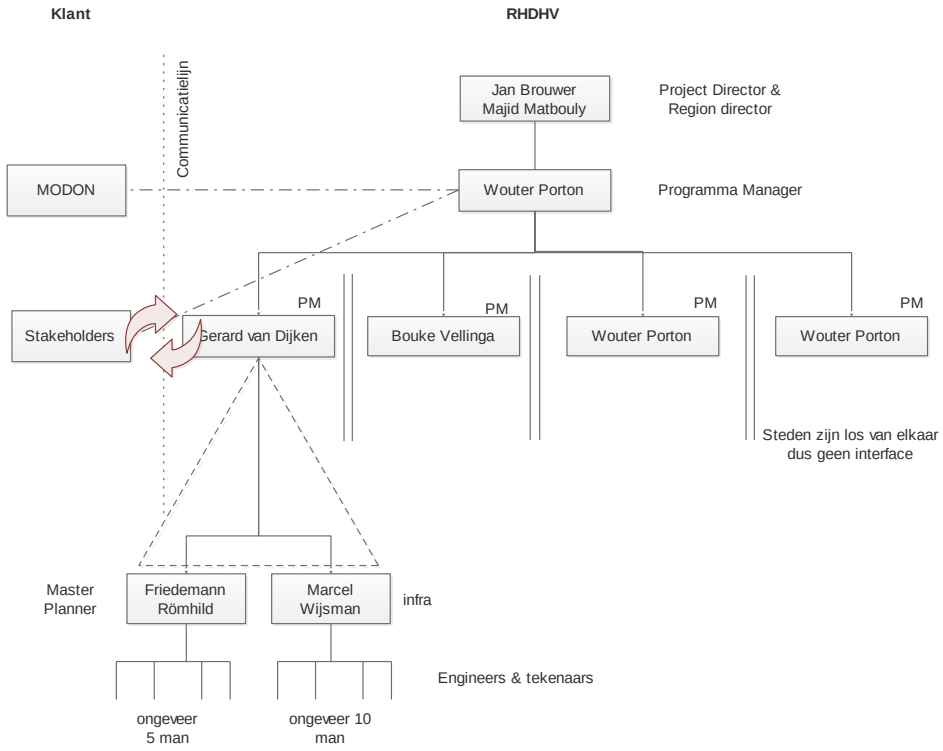


Figure 6-19: Project organization four industrial cities (source: interview interviewee 3C)

Each project is undertaken by a project manager and every project manager has de same construction below (a triangle). The project management team exists thus of three members namely project

manager, master planner, and infrastructural engineer. Master planner as well as infrastructural engineer has both: engineers, experts and designers below them. The triangle forms the integral teams for this program. It is north worthy to mention that the cities are isolated from each other so there is no interface management needed between the cities. On top of the four projects there is a program manager who has is also the project manager of a city.

The client willingness to be involved actively in the project and gain knowledge on the experience and approach of the RHDHV consultants is the policy within the Reference for Proposal (RFP). Therefore, RHDHV has created a knowledge team. In this large program of designing multiple industrial cities, the knowledge ensures that work/deliverables are checked, learned from, improved and most important transferred between the parties. The knowledge team also assists the design team(s) and regulates all organizational issues. The aforementioned knowledge team is involved for Quality Assurance which means that they provide client and project oriented knowledge, and secure the implementation of this knowledge in the work of the Design Teams.

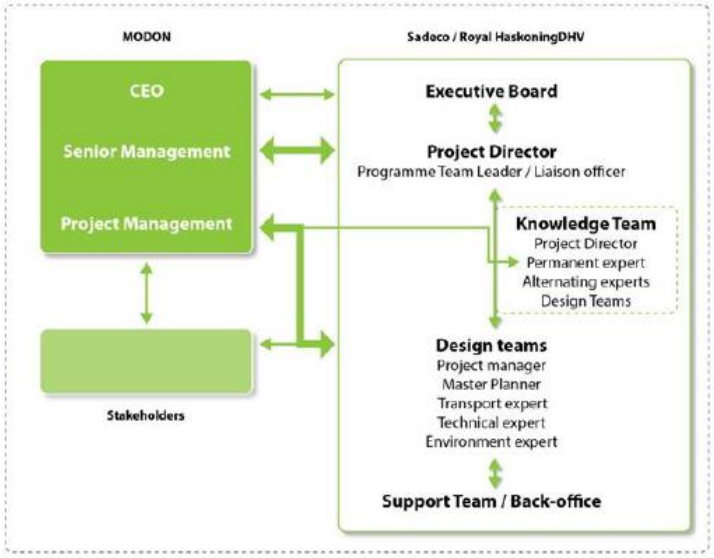


Figure 6-20: Diagram displays the project organization relation and intensity (thickness of the arrows) between client, stakeholders and RHDHV (RHDHV, 2014b, p. 4)

To allow the master planner to concentrate on his main tasks of urban design without spending too much time on managerial aspects a project (control) manager (PM) takes care for all the progress reports, budgeting, quality control, and stakeholder management tasks etc. In practice however the master planner will always be present during most sessions of the design stage, as he will lead the overall design. Other experts will join whenever it is needed.

In figure 6.21 a more detailed overview is shown on the proposed internal organization.

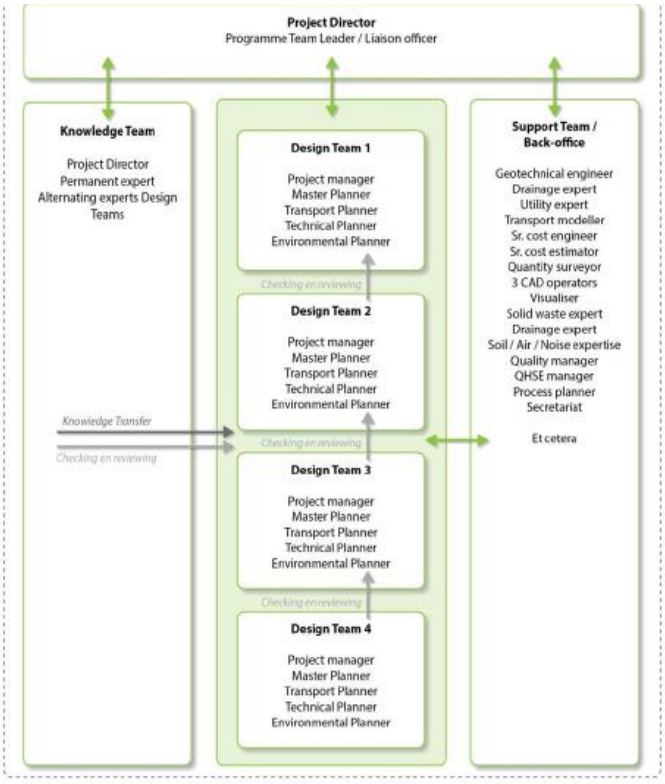


Figure 6-21: Project organization for the execution of projects by several design teams supported by an extra team of expert back in the office

6.5 Reflection on cases

The initial analysis has led to the following conclusion: all three different disciplines require three distinctive roles as it is illustrated in figure 6.22. However, each discipline designates a different name on these three roles and interprets different tasks within each role.

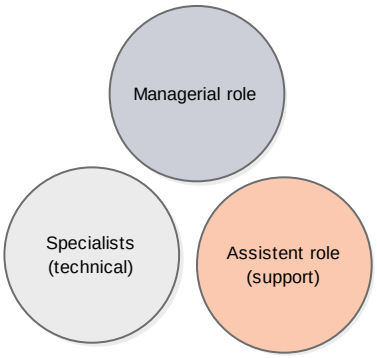


Figure 6-22: Three distinctive roles within all three disciplines; infrastructure, traffic, and U&D [own ill., 2016]

For instance, within Infrastructure the role of Project Control is more or less a project manager assistant role while within a IPM team the role of project control manager is as heavy as the other roles. His/her tasks are not to control, review or audit weekly reports but to control the golden triangle; cost (budget), time (planning) and quality within the scope and management of risks. In addition, this role is not as a support position in the hierarchy rather it is a role equivalent to the rest of the roles. The same goes for the role of stakeholder manager within the discipline of Infrastructure. In contrast, within the discipline of U&D the role of project manager control is brought under the responsibility of project manager. Thus, each of these key roles as it is illustrated in figure 6.22 is misused and given own interpretation and there is no universal description for each role and in accordance to the companies standards. The several roles within each discipline are shown in figure 6.23.

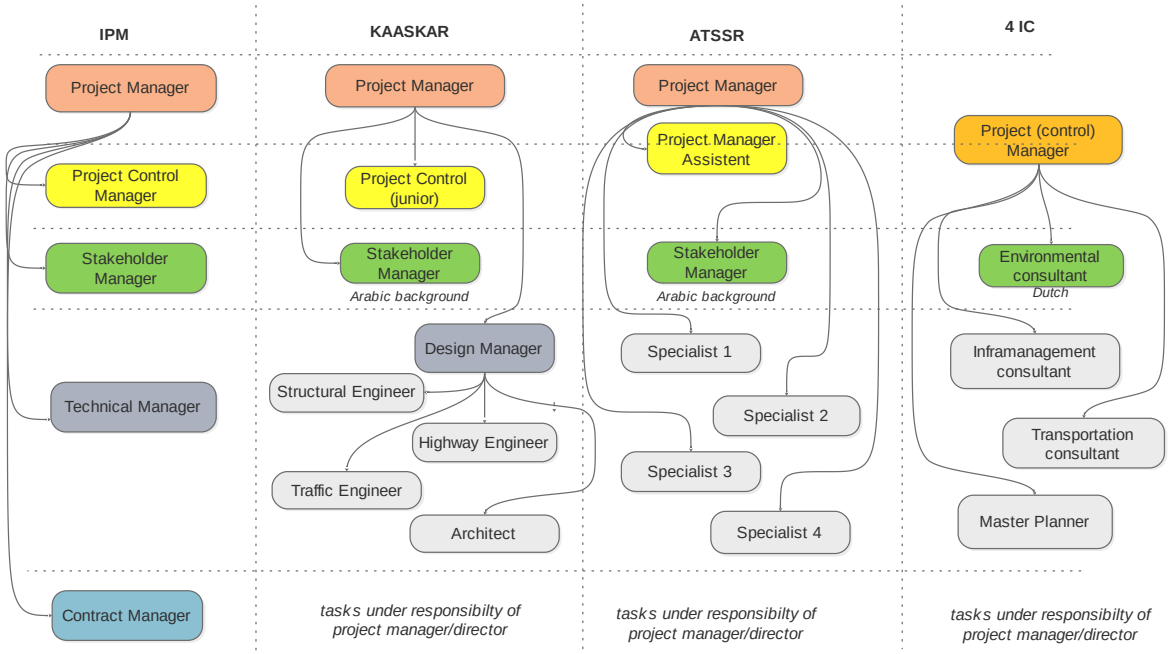


Figure 6-23: Role distinction within each discipline compared to IPM roles [own ill., 2016]

Project manager
The role of project manager is an essential and familiar role for all three disciplines. However, the interpretation is meanwhile different to some extent. For instance, within the U&D discipline project control matters are classified under the responsibilities of the project manager while in accordance with IPM team it is an equal role and a distinctive one with separate tasks, responsibilities, and authority.

Technical/design manager
It is obvious that within all three disciplines a bunch of experts, professionals and specialists are involved. However, in accordance with IPM team these roles are classified under the responsibilities of the technical manager. However, in first meetings with the client often experts and specialists are involved to exchange knowledge and understanding of the deliverables. This is the reason that often in the project organization specialists and experts are involved to create a sense of trust with the client, as it was the case with Traffic discipline.

Contract manager
As it can be observed, the role of contract manager is missing. Obviously, in the initial design phase no contractual issues are discussed. However, in accordance with the IPM standards even in the initial phase the presence (early involvement) the role of contract manager could be essential.

Stakeholder/environment manager
This role is quite present in all three disciplines. Within infrastructure and traffic this role is called stakeholder manager while within U&D it is called environmental consultant. Obviously, making master plans for industries and cities has got more elements within it than only a distinct responsibility of stakeholder management and that's in accordance with IPM. This role can be heavy loaded dependent on the environment and number of stakeholders.

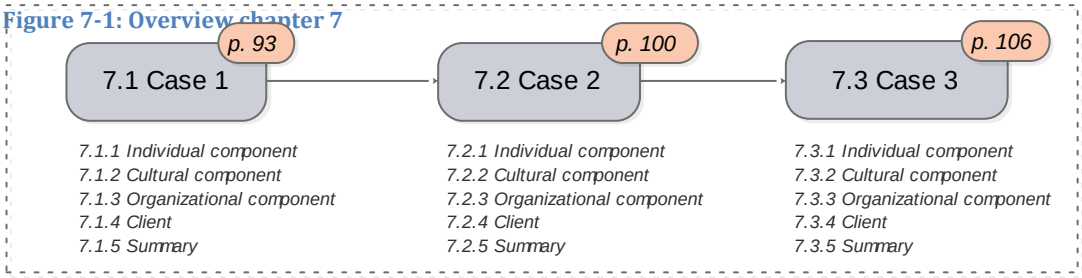
Project manager control
This is one the role which is differently interpreted within each discipline. In case of Traffic this role is even excluded or classified under another role which is not crystal clear from the documents. Within U&D the tasks of Project manager control are brought under the responsibility of project manager. In case of Infrastructure this role is present but tasks are totally different compared to the standards within IPM team. Within the project KAASKAR the role of Project control was much more of supporting role for project manager rather than controlling the budget, planning, quality and risks as it is proposed within IPM.

7

Results [CONFIDENTIAL]

This chapter depicts the results of the case study interviews. This chapter exists of three sections which relates to each case. The results are divided for each case into the three topics of the analytical framework. Each topic is summarized so that the reader can have a quick look on what the results brought in that specific section. In addition, each case is summarized. Afterwards in chapter 8 the results are analysed.

Figure 7-1: Overview chapter 7



7.1 Case 1: Program KAASKAR

7.1.1 Individual aspect

Interview question: *Could you please tell me something about your experience, which was an important lessons learned for you in this project?*

7.1.2 Cultural aspect

Interview question: *Could you please take me into your imagination of how the Arab culture has had impact on your work and please tell me about the competences which are required for such an environment?*

7.1.3 Organizational aspect

Interview question: *In which way has the organization and especially the line management and Advisory Groups take care for best team approach?*

7.1.4 The client AMANA

7.1.5 Summary results program KAASKAR

7.2 Case 2: Project ATSSR

7.2.1 Individual aspect

Interview question: *Could you please tell me something about your experience, which was an important lessons learned for you in this project?*

7.2.2 Cultural aspect

Interview question: *Could you please take me into your imagination of how the Arab culture has had impact on your work and please tell me about the competences which are required for such an environment?*

7.2.3 Organizational aspect

Interview question: *In which way has the organization and especially the line management and Advisory Groups take care for best team approach?*

7.2.4 The client ADA

7.2.5 Summary results project ATSSR

7.3 Case 3: Program four Industrial Cities

7.3.1 Individual aspect

Interview question: *Could you please tell me something about your experience, which was an important lessons learned for you in this project?*

7.3.2 Cultural aspect

Interview question: *Could you please take me into your imagination of how the Arab culture has had impact on your work and please tell me about the competences which are required for such an environment?*

7.3.3 Organizational aspect

Interview question: *In which way has the organization and especially the line management and Advisory Groups take care for best team approach?*

7.3.4 The client MODON

7.3.5 Summary results program four industrial cities

8

Analysis [CONFIDENTIAL]

In this chapter all the results are considered and a cross case analysis is done. The results of the interviews and case studies initial findings are described in the previous chapter. This chapters aims to provide analysis and interpretation of that results.

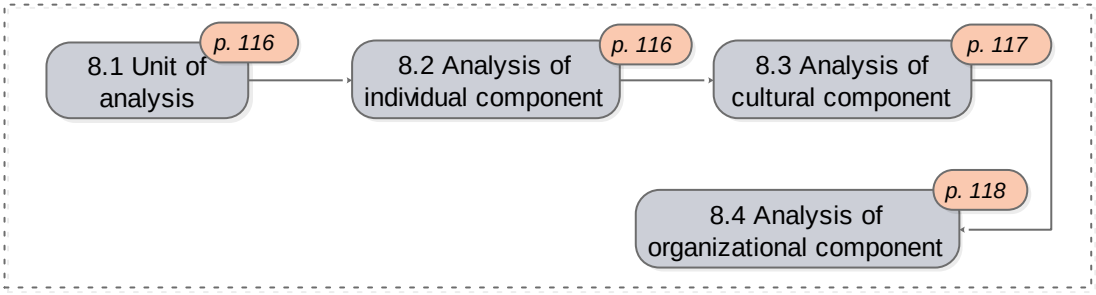


Figure 8-1: Overview chapter 8

8.1 Introduction: Units of analysis

This chapter forms the cross case analysis of the case study results. This has been done by bringing all the results together. The research components were discussed in chapter 5: the conceptual framework. The research components were: the individual experience from projects in Saudi Arabia, the cultural experience with Arabs and the last component is the experience of interviewees on the organizational processes and project support. These three research components served as a backbone for the interviews (case studies). After rearranging the data (see Excel codebook) the outcome is structured according to the initial topics (units). As far as it was possible, the results of the case study interviews are supported by a short review of the literature study, initial findings and (confidential) document analysis. Next, short introduction is given on the outcome of analysis sub-units where after the overall analysis is presented in appendix A.8.1. The case study data from all three projects are rearranged into three topics as it is illustrated in figure 8.2.

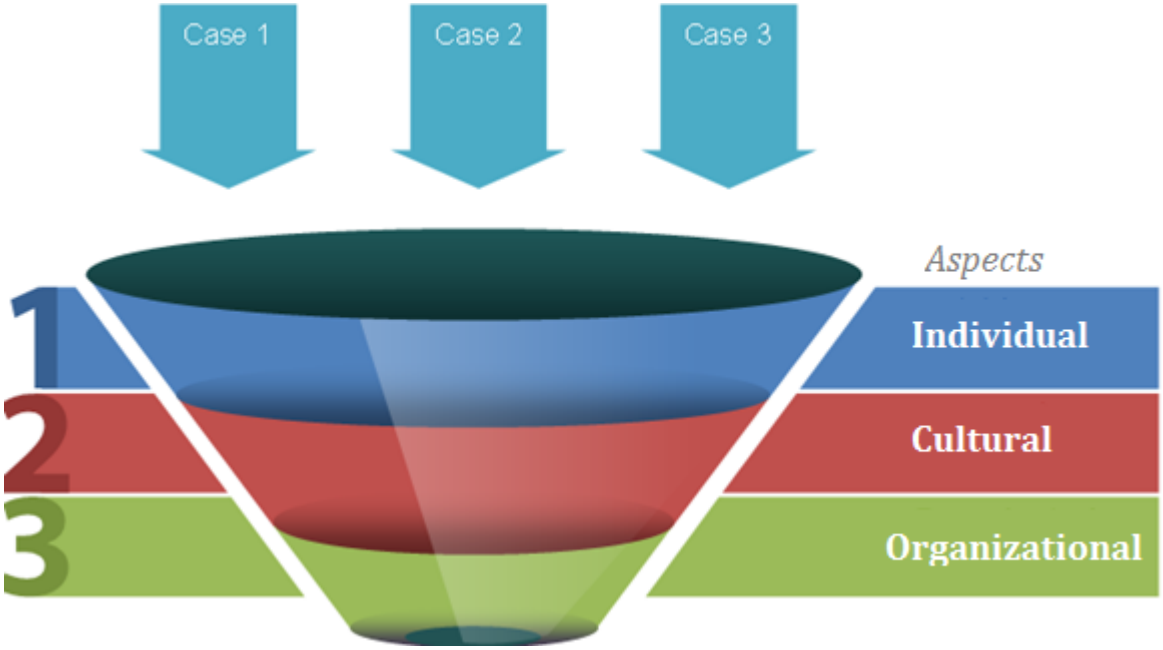


Figure 8-2: Arranging of case study data on three aspects

8.2 Analysis on individual aspect

8.3 Analysis on cultural aspect

8.4 Analysis on organizational aspect

Part IV: Conclusions & Recommendations

Chapter 9: *Conclusion, Recommendation & Reflection*

9

Conclusion, discussion, recommendation & reflection

This is the final chapter of this report which is also the end part. In this chapter the main research question is answered, several aspects of this research is discussed, advice is given and reflection provided on the research.

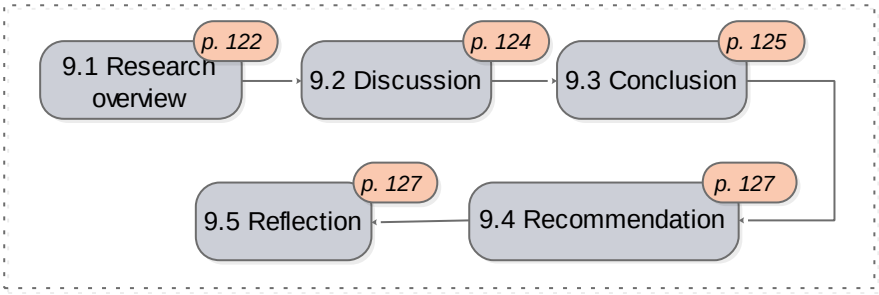


Figure 9-1: Overview chapter 9

9.1 Research overview

In this section a concise overview is given on the research problem, literature, conceptual design, results and analysis. Afterwards in the discussion section these elements are debated.

Problem statement

International project-based (IPb) organizations are facing difficulties to manage international projects. Today's infrastructural projects are characterized as complex in different domains of project management. As traditional project management methodologies do not comply with today's complex infrastructural projects, how can integral project management contribute towards IPb organizations to efficiently organize and execute international projects?

Literature

While infrastructure has become complex, IPb organizations are seeking new forms of tools and methods to manage and organize projects accordingly and efficiently. One way this can be done is by a functional organizational structure which is defined by different role departments whereby projects are organized around these roles (departments). Such a functional organizational structure is rolled out within the Dutch authority of water and highway and is called Integral Project Management. The different role distinctions are; stakeholder, contract, technical, control and overall project management. IPM consists of IPM philosophy, IPM model, IPM roles.

Due to globalization IPb organizations undertake worldwide projects which need resources. Those resources are shifted from the parent organization as expats to the local project. However, those individuals encounter cultural clashes and are limited to their work. The more cultural differences the more impact it has on the daily business. Western project managers are known for their direct approach and punctuality. This is often experienced by (Eastern) locals as offensive and rude. Approaching and assessing other cultures with own standards and norms, is called in the anthropology: universalism. Universalistic approach is defined by perceiving own culture as superior above other cultures which leads to less sympathy and empathise on local culture and how they perceive the world and the deliverables. Thus, cultural awareness should be of the core facets of IPb organizations.

Conceptual framework

Out of the literature study three research units are derived. The first unit is the individual aspect which defines itself as how individuals perceive there tasks and role in different situations and in different projects. Second unit is the cultural aspect which can be defined as the cultural boundaries where project managers and Western engineers are dealing with. Last unit refers to the organisational processes and facilitation of international projects. This unit is derived as an assumption that not only culture and individual aspects have impact on the failure or success of international projects but also how organizations structure their processes. These three aspects are used as an input for the case studies to collect empirical data.

Results & analysis

On the individual aspect all three cases show the project organization is considered on very pragmatic way. All three projects show a different project organization structure with little similarity. During the project organization and resource allocation little effort is paid to best team approach and especially in case of program KAASKAR. The resource allocation is characterized by the interviewees by 'best of the bench'. Besides, tasks, role and responsibilities deviation is considered on an ad hoc fashion. In fact, the line management in all three projects has no central role in resource allocation, selection and development. In addition, project management aspects are moderately performed in all three cases but worse in case 1 and case 2. Surprisingly, all three cases illustrate the importance of having a colleague with Arabic cultural background. While the cultural differences are huge one can bridge those differences by involving someone who understands the culture, can empathise in the client and is easier adaptable to the circumstances rather than Westerners. This practice of hiring local Arabs is also performed for example by the agent (British review team Hyder Consultancy) between KAASKAR

program and client AMANA. More important is that the client appreciates the combination of locals and Westerners. Strangely, RHDHV organization (line management) applies a divergent perspective on this matter by allocating available resources. Finally, the position and background of the Arab colleagues are equally important. Despite the huge cultural gap between Western societies and in specific Dutch compared to Arabs it is of paramount importance to select team members on social/soft skills which can make or break you in the cultural context of Saudi Arabia. Most important is irrespective of the specific competences that the employee are committed to other cultures, are willing to learn, are willing to accept differences, are willing to adapt to the circumstances and who have an interest in other cultures. Other specific competences could be for example: Openness, indirectness, flexibility, polite and gentle approach, respectful, patient, humble, goer and insensitive to irritations.

On the cultural aspect it can be concluded that the cultural differences between the Netherlands and Saudi Arabia are huge. These cultural differences can relate to the way we communicate, how we approach our counterpart, how we deal with issues, how we perceive things and especially work related things, what we expect and how we judge etc. In addition, the Arabs are characterised by: reactive attitude, short span of attention, slow decision making, low sense of responsibility (in sha Allah), huge difference in authority and status, bureaucratic, and loss of shame culture. These cultural differences require that when we choose to work internationally and specific in a country such as Saudi than we must adapt to the circumstances and adapt to interact with the client and even to act like the Arabs. However, the adaptation is experienced to be insufficient to bridge the cultural gap. Next to all those cultural differences it is observed within case 1 and 3 that there are two cultural clashes: the first as it is prescribed as those cultural differences between Arabs and Dutch and secondly, the Anglo-Saxon culture of Britain's compared to our Rhineland culture. The Britain's want (tour of) justification for each and every claim we do in our reports while in Rhineland culture things and matters are approached as being evident. This is frustrating and brings lots of irritations within the project because not only managers have to adapt but all specialist and technical staff. Finally, the most important element which is derived from all three cases is the way we as Westerners interact with the client which is split into personal and professional way. All three cases show that as Westerners we find it difficult to interact both personal and professional.

It is observed from all three cases that the decisions the management level takes to executes projects abroad are experienced as counterproductive. Especially in a country such as Saudi Arabia is the basis to allocated project team close to the client. In fact, the organization prefers to send staff when it is needed. In addition, the organization and in specific in these three cases, it is observed that staff members are unwilling to be allocated permanently in a country such as Saudi Arabia. This reluctant attitude contributes to the cultural clash. Thus on one side the organization is reluctant to hire new locals and on the other side employees are cautious with international projects due to certain reasons. It is assumed that family and the negative picture of Saudi Arabia contributes towards reluctant attitude of the employees to go for an expat position. International projects involve different departments to deliver resources. However, due to the fact that so many different departments are involved also different interests are dealt with. At instance this makes central decision making hard. This has negative impact on the cohesion of the group (project team). Organisation and in specific the line management is reluctant with internal education of the technical staff who are placed in international work for the first time. Often it is expected that the employees will learn on the job while barriers such as the English language and cultural gap has enormous impact on the projects deliveries. Somehow international projects should be facilitated in its broadest meaning of the word. In these cases it is observed that all levels of management within the organization from the departments to residential director and most of all the HRM are reluctant in supporting the staff. All those levels have no to little experience with expats. Especially HRM is not supportive. All interviewees indicate that HRM does not show little expression of appreciation that employees work abroad in difficult circumstances and outside the office hours and often in weekend.

9.2 Discussion

This section of the research will discuss the limitations of the study and the way they influenced the study outcomes. This thesis aimed to find an answer to the following research question: *What lessons can be learned from the design phase of construction projects in Saudi Arabia in order to assess Integral Project Management within the wider cultural context in which it is applied?* To answer this research question several key concepts and cases are conducted. This research made use of existing literature and experts experience from projects in Saudi Arabia. Following, first the findings are discussed where after the literature, practical part and finally the conceptual framework.

Discussing the findings

First of all the findings of the case studies are a snapshot in time thus current developments within the case of RHDHV are not taken into account which means that some of the findings from the case study are obsolete due to the fact that for example those shortcomings during the project (in past) are already taken care of. Secondly, it is also observed from the separate conversation with an Arabic colleague (Mohammad Al Shekhli, who is a Geo technician and served as an Arab colleague to collect data), that it is no guarantee for better projects to involve an Arabic colleague that data can be collected. It only supports the project team during meetings or other conversations. Third, it is addressed in the findings of the case study results that soft skills are fundamental and of paramount importance in Saudi projects because the Arabic culture relay on a social level says the local Arabic colleague (Matbouly, 2015). However, one should be careful not to mix the soft skills discussed in the literature compared to the findings. The soft skills addressed by Matbouly are more on the interaction with the locals and client while the soft skills addressed in the literature are about the interaction within the project team.

Discussing the limitations of theoretical study

In the literature an attempt is made to highlight the most important aspects which are related to the main question. However, due to scope reasons corporate culture was not considered in the literature while on a later stadium it seemed very important. IPM is a philosophy which is grained into the organization of RWS. Thus, if one strives to implement such a concept within another organization then it is crucial to know if the concept is not contaminated with corporate culture and if so then what the implications for the host organization are. Furthermore, the cultural part has been complex because when considering international projects, culture is present in too many levels: corporate culture, national culture, management culture, individual culture, Arab (religious) culture and project culture to name a few. However, again due to scope reasons no corporate culture between RHDHV and client is research and also no project team culture, it is rather tried to present national culture and where after the concept of universalism is addresses as the core barrier for doing business abroad.

Discussing the limitations of the practical research

For the case studies interviewees are approached who had done projects in Saudi Arabia who could tell the researcher about the barriers they encounter. However, for the objective of this research, the interview output was limited on the specific knowledge of application of IPM in Saudi Arabia because it was difficult to find interviewees who had both knowledge on IPM and also had project experience in Saudi Arabia. Thus, the findings are limited to the conceptual framework (research units). Furthermore, the researcher had no access or could not find interviewees from other Business Lines such as Aviation or Maritime. These Business Lines are located in Saudi Arabia for many years and have enough expertise of international works. In further research it will be addressed that more cases also from Aviation and Maritime could increase the credibility and transferability of the conclusions and recommendations.

Discussion on development of the conceptual design

The conceptual framework is derived from the literature study on key concepts related to the main question. The research units: Individual, organizational and cultural aspects are limited units but are in depth elements. In order to accurately assess the applicability of IPM into international project based organizations if the conceptual design took more research units. As it is previously mentioned, the

corporate culture could be added but also the different domains of IPM can be used to assess the applicability of the concept in different locations.

9.3 Conclusion

In this section the conclusions will be discussed. First the main question is answered and afterwards the sub questions are answered in bullet points. For more detailled answer of the sub questions, can be found at the end of each particular chapter. The main research question is stated in chapter 1 as:

What lessons can be learned from the engineering & design phase of construction projects in Saudi Arabia in order to assess Integral Project Management within the wider cultural context in which it is applied?

From the empirical research it can be observed that the following main lessons can be drawn:

Table 9-1: Lessons drawn from empirical study

1.	Individual (project) aspect	Technical solution outperforms project management activities/processes while IPM proposes distinct disciplines and explicit roles for each discipline.
2.	Cultural aspect	Arab cultural context requires social processes and flexible work method while IPM has rigid boundaries and tasks and role deviation.
3.	Organisational aspect	The ambitions of becoming transnational organization and building the best team (one of the organizations pillar) are not observed in these cases.

Based on these lessons drawing, the sub conclusions of the literature study and the case study results and keeping the scope and limitations in mind, it can be concluded that Integral Project Management as it is applied within the public project in the Netherlands, in its strictest form cannot be applied by private (international) organizations such as RHDHV. A main reason is that IPM is a product developed by the public organization for public projects and the corporates culture is rooted in IPM. In addition, it is observed that IPM should be considered as an organizations philosophy which makes it hard to implement the fundamentals in other organizations and in particular private organizations. Thus corporate culture forms a barrier for implementation. In consideration of international projects it can be concluded that cultural differences cannot be neglected to freely implement the idea behind the concept of IPM elsewhere and especially not with international projects in countries which shows huge differences.

However, IPM has also a universal element which is not corporate related and are the different domains i.e. environment, technical, contract, project management and project control. No matter what cultural context is considered these five disciplines are present everywhere and are thus not culturally dependent. Acknowledging these areas can support international project-based organizations to organize projects in a uniform way and creates efficiency in resource management. It would also contribute as a clear and transparent approach towards project management. A notable remark here is that it should be recognized that those different disciplines are universal but does not mean that its interpretation can be different. For instance, contract management in the Netherlands made a transition towards integrated contracts while in Saudi Arabia it is often preferred to have oral agreements or on Lump sum[24] basis. Another example on stakeholder management is that within the Dutch public projects the role of stakeholder manager is more than only collecting data from stakeholders, the whole environment which also includes public participation. Thus, there is possibility to implement IPM but that would be a light version of IPM which is modified and adapted to the local environment, the same as how Mac Donald's adapts its burgers[25] in the cultural context. This light version of IPM thus only depicts the different disciplines which are of paramount importance to always consider regardless the cultural context.

[24] Lump sum contract is an agreement with specified services for a stipulated or fixed price. In such a Lump sum contract, the owner (client) has essentially assigned all the risk to the contractor.
[25] Addressed in chapter 4

For RHDHV it means that when considering international projects first of all at the project start up these different domains should be considered by the project manager in alignment with the line management to decide what resources can fulfil those different fields. Stakeholder management could be done by a bi-cultural colleague or a local employee because this discipline is externally oriented. It is preferable to have this bi-cultural role also as a deputy project manager who supports the project manager at meetings and intercourse with the clients. It is even more preferable to have an Arab colleague with a background higher in the tribal hierarchy because in Saudi Arabia status is crucial to interact with clients. For the technical manager it is highly important to be socially sensitive and have soft skills to be able to communicate with the clients. In addition, he must have technical expertise and linguistic knowledge. Contract management is a discipline which is explicitly considered in the realisation phase (see chapter 3). In the engineering and design phase often the project manager or project director can be responsible for the contractual tasks.

Sub question 1 is stated as: *what is the current state of Project Management discipline within international project-based organizations in the infrastructure industry?* In chapter 2 it concluded that infrastructure projects are getting complex in different domains such as contracting, control, environment, technically, and manageability. Therefore, project-based organizations experience difficulties in managing projects. At the same time, the current project management methodologies getting obsolete and needs to be professionalized whereby much focus should be paid on human side (soft skills). Those same methodologies are seemed to be not tailored for the infrastructure industry.

In chapter 3 a new work method (organisational tool) is introduced called Integral Project Management which is emerged within the Dutch public projects. In this chapter **sub question 2** is answered: *what is the added value of IPM to international project-based organizations in the construction industry?* The answer to this question is that this concept is tailored for the infrastructure industry to efficiently and effectively manage risk oriented projects within project based-organizations. IPM brings standardization (uniformity) in the project organization which leads to clear deviation of roles and tasks. This makes it easy for line management to develop each discipline or domain within IPM on a structured way which can be monitored. Line managers in that perspective get a central role and are much more involved with project organization as compared with traditional way while all roles are equal in terms of authority, responsibilities and interests. This means that the different disciplines approach the project integrally and go in dialogue when interests are opposing.

While this research is focused on international project-based organizations, the key element culture is extensively elaborated in chapter 4. The **sub question 3** is addressed as: *if international projects are considered, how does culture form a barrier for interaction and communication for IPM role keepers and what specific competences are required?* It is concluded that Globalisation/internationalisation has led to close interactions between cultures. Western managers fail to understand that culture has severe impact on the daily business because there a huge cultural gap between nations such as the Netherlands and Saudi Arabia. In addition, lack of cultural awareness can lead to stereotyping and assessing/approaching other cultures with their own cultural lens which is defined in the anthropology as universalism.

9.4 Recommendation

In the previous section the conclusion part of this research is discussed concisely. This section will provide some recommendations on those conclusions. It is concluded that IPM in its strictest form could not be applied within other project-based organizations because IPM is rooted with corporates cultures. However, through the research valuable lessons are drawn which create room for improvements. To achieve those improvements recommendations are given in this section. First recommendation for the application of light version of IPM within RHDHV will be addressed and where after the recommendations are given for further research.

Recommendation for RHDHV

A first step towards professionalization of the project management discipline is to acknowledge the different domains of IPM. Project management should be in balance with the technical performance. This means that the organization should develop those different fields. Development can be in terms of hiring or educating managers towards those different fields. It is too often the case that staff members grow and develop as project manager. From line management this can be regulated and managers can ask to develop in the one of that field because at the end one cannot have only project managers in the organization. Simultaneously, it is crucial to seek alignment from those roles (responsible) with the different tasks of project management. This way it can be avoided that roles and tasks are combined and miscommunication can arise. In all those steps the role of line manager is crucial and should have a central role in case of project resource management.

Recommendation for broader context

In this study RHDHV is taken as a case while the outcome of this study could be used in the broader range of project-based organizations because any organization whereby projects are the core business can and should manage it on a more efficient manner. First of all it is recommended to consider the universal backbone of IPM which is the different disciplines. Secondly, it is recommended to consider the corporates culture of RWS in comparison to one's own corporate culture in order to acknowledge the differences and be able to know if and in what extent IPM can be applied.

Recommendation for further research

First of all, a comparison in organizational culture between RWS and (any) project-based organization could provide further insight on possibilities to adapt other success factors such as equality of the roles. Secondly, a further study with more cases and especially cases from Aviation and Maritime departments because these Business Lines operate in Saudi Arabia for a longer period of time. Third, further study is needed on how IPM project teams work i.e. project team culture of IPM. Finally, further research is needed for the development of the conceptual framework: Research unit culture should be defined in several components such as corporate culture, national culture, and management/business culture. It is then interesting to see how these several dimensions of culture would have implication on IPM. In addition, research unit organization should be elaborated on HRM processes specifically.

9.5 Reflection

This section reflects on the theory and practical part from a personal point of view. What could have done better?

Theoretical reflection

First of all, due to the fact that little was known about IPM much time was consumed to collect data from public projects. Therefore, no depth data is collected on IPM rather broad, general understanding is created in order to know what IPM is about and why project-based organization should apply it? In addition, the interviewees had little to no knowledge what IPM was about which limited the outcome of the results to be accurate. Therefore, the cultural and organizational parts are taken into account to have a solid conceptual framework. Secondly, the corporate culture is not taken into account in the conceptual framework it is assumed that it will have negative impact on the application of IPM within other organizations because as it stated in the conclusion part of chapter 3 is that there are huge

differences in corporate culture between RWS and RHDHV. Finally, if there was a solid literature study available on IPM, it could support to provide a more robust conceptual framework.

Practical reflection

The people studied in this research had no to little knowledge of IPM. This is also the reason why it has been difficult to match the results with the initially pinned research question. Reflecting on the case study it would have been better to introduce IPM through a presentation or symposium to the project managers in order to provide IPM knowledge for better understanding. At this stadium this research delivered insights in how international projects are executed and organized in light of project management in general. Furthermore, in this research the interviewees took two small tests. The first one was a self-assessment questionnaire on the cultural dimensions of Meyer (2014) and the second tests were to draw an acculturation curve. Both tests were part of the cultural component but due to time constraint the tests are excluded from the results. These tests were intended to illustrate the differences individuals have compared with the cultural context of Saudi Arabia and how they experienced culture shock (for the first time compared to the last visit).

Epilogue

At first instance when project managers shared their experience on cultural shock in Saudi Arabia for me it was quite interesting and it got my sympathy. As a foreign refugee I live since 1998 in the Netherlands. I enjoyed last two months of the primary school and soon I developed the Dutch language and finished my bachelor in Built Environment. However, as a refugee I mastered the spoken language and integrated in every sense of the word, yet I am conflicted daily with cultural clashes. For instance, as being from a restrained and collectivistic society I have learned to call someone higher in the hierarchy or age with sir or madam, while at the same time I have learned to call everyone regardless the status with 'you'. Another example is that within a high power distance people are bound by hierarchy. People lower on the hierarchy feel distanced from the superior. Yet I have proven with the preliminary research study on Integral Project Management that it was very easy for me to get into contact with higher directives and CEO's. Furthermore, during these 18 years of living far from homeland I have mastered myself to be adaptable to every daily situation when conflicting in cultural issues. This proves that culture is a complex phenomenon. It takes years of living and working in the local environment of the host country for a foreigner to be able to handle certain situations. Surprisingly, a manager who works in a foreign country will assume that he or she can handle the environment and cultural barriers when dealing with the client. No wonder one would look peculiar and think what did I wrong? When the client withdraw from the agreement.

The aforementioned example is indirectly a nice reason why this opportunity I have been given from Royal HaskoningDHV to execute this research. Throughout all the examples of cultural differences between Dutch managers and Saudi Arabian clients I have experienced it to be avoided when one was aware of the Arab culture.

In today's world, complex, innovative and multidisciplinary projects in a dynamic environment are calling for a new breed of manager able to competently combine engineering and organization skills. Today's construction industry is changing fast. New techniques, shifting roles, complex logistics and globalization are only some of the factors affecting the character and management of projects in the construction industry. In my study 'Construction Management and Engineering' I have learned to cope with this dynamic shift in both the technology as innovation. CME is a multidisciplinary and international oriented study, which focuses on the elementary facets of the infrastructure industry: project management, process management, financial engineering and cross cultural management to name a few. This study makes us able to bridge the gap between the technical people and management staff. We are able to draw solutions for the dynamic environment of todays practice.

In all those years I was never aware that culture impacted me in many ways. Since this research I am awakening of the fact that culture was always present next to me. Therefore, cultural awareness is crucial to acknowledge. Erin Meyer in her research also confirms this though. She argues that it is quite possible, even common, to work across cultures for decades and travel frequently for business while remaining unaware and uninformed about how culture impacts your work. Let alone living in the Netherlands for so many years to fully willingly to integrate still falling continuously into cultural traps.

Finally, I want to reflect on the research itself. First the literature study could be enriched with study on implementation. What does it take to implement a tool or method within an organization? Secondly, at the beginning it started with the search on IPM. Initially, IPM seemed to me as a rigid project management subject which was assumed to be understood by many experts. However, the opposite was true, IPM was a river of knowledge which was difficult to grasp, it is even more an organizational philosophy or a work method which is rooted in the organization. Furthermore, culture is often approached as an iceberg: rigid and limited boundaries while culture can be observed as a river with unlimited boundaries. Culture can be seen in corporations, management, business, national differences, and individual and team culture to name a few.

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Appendices

Each appendix is coded with letter 'A' (appendix) and then with the chapter number followed by sequence of the appendix.

A.2.1 Soft skills versus hard skills

It is important to note that it is not easy to say what exactly the soft skills are, because the perception of what is a soft skill differs from context to context. A subject may be considered a soft skill in one particular area, and may be considered a hard skill in another (Schulz, 2008). For instance, knowledge in project management is "nice to have" for an electrical engineer, but it is a "must to have" for a civil engineer. Another example, cultural awareness might be a marginal skill for a structural engineer working for local projects, but an absolute necessity for a project manager working across the borders.

A definition is provided by Morando (2012) to distinct between the soft and hard skills. A definition is needed because; widely in the construction industry, managers do not comprehend the meaning of soft skills.

> ***'Soft skills'*** *are largely intangible, not associated with a deliverable or a concrete output, and they are generally employed without the use of tools or templates. Interpersonal skills include traits as leadership, communication, negotiation, expectations management, influencing, problem-solving, and decision-making.* ***'Hard skills'*** *on the other hand, that is, the more technical aspects of the project manager's role, generally involve the creation of a tangible deliverable such as a work breakdown structure (WBS), project schedule, critical path diagram, earned value reports, project budgets and so forth. These skills are more technical in nature, and they often incorporate the use of tools such as project scheduling software, spreadsheets, modelling tools, and templates (Marando, 2012).*

According to Morando (2012) soft skills are often phrased using verbs. They reflect actions: managing expectations, influencing, negotiating, problem-solving, and so forth. On the other hand, hard skills generally are phrased using nouns, as they are aligned with the resulting deliverables or outputs produced: schedules, budgets, earned value metrics, risk management reports etc.

Further research and attention is paid by Stewart (2014) on human endeavour. Stewart points out that the current practice of project management suffers from an imbalance. This lack of balance can be attributed to our inability to assess and develop competency in the management of the 'soft issues' rather than an over development in the technical competencies (2014, p. 8). Stewart continues that the balance can be assessed and monitored using an Integral approach and the Emotional Intelligence[26] (EL) competencies. Stewart concludes that this might be the way of the future. Stewart has made a significant distinction between soft and hard skills as it is illustrated in figure 2.3. Soft skills (human) are defined as depth, qualitative, communication, interpretation, and feelings between the team members. While hard issues (things) are defined as; superficial, quantitative, measurable, observable, and scientific.

[26] Definition EI by Goleman: "the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships." More about EI see: www.eiconsortium.org

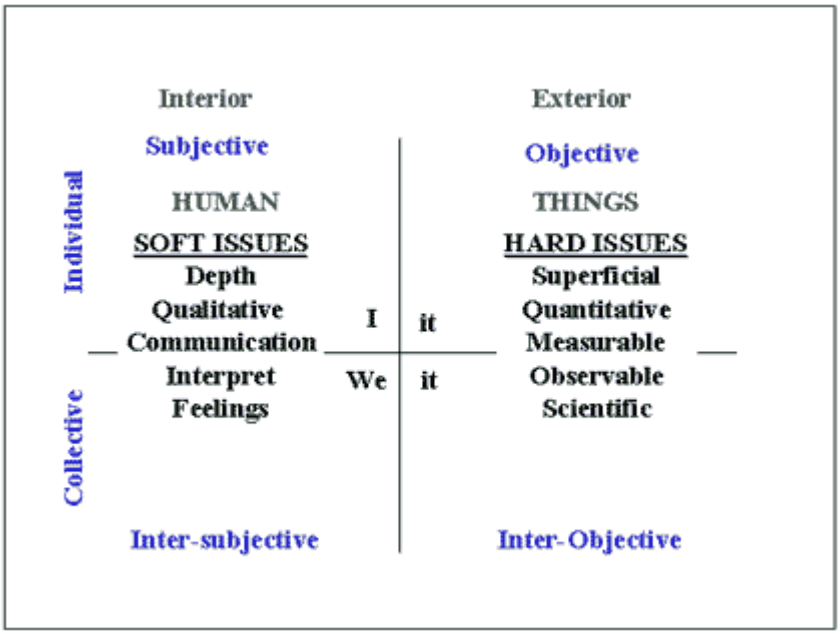


Figure 1: Soft versus hard factors ((Stewart, 2014)

Soft skill aspects

It is already aforementioned that the essence of IPM grounds on the collaboration principles within the IPM team (see 3.1.2: a collaboration concept which means that effort is paid to bring several disciplines together through dialogue). Working with five roles with each different perspectives and interpretation, conflicts are luring around the team. Reinking (2015) has collected and selected a bunch of elementary knowledge on the human side of project management: a 8 core aspectes for a succesfull collaboration for a team or single meeting (p. 13). He has eleborated on the same principle of the collaboration within the IPM team. Reinking mentions that the aspects are not stated on their own but interrelates to each other. All aspects have to be met for a succesfull collaboration. Those aspects are: (1) common goal, (2) trust, (3) interests, (4) responsibility, (5) profesionallity, (6) communication, (7) adressing team members on their responsibilities (Dutch: aanspreken) and (8) sense of humor.

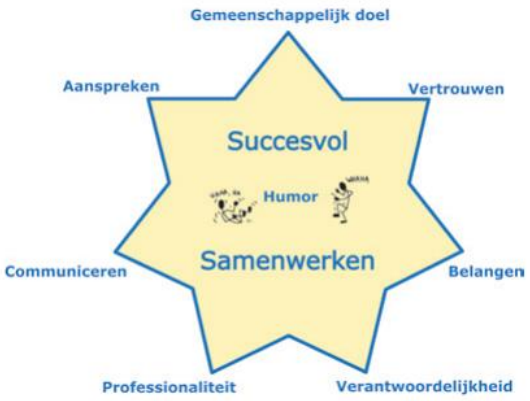


Figure 2: Successful collaboration depends on these 8 aspects collected by Reinking (2015)

Other literature on soft skill examples, see below in table 1.

Table 1: Soft skills examples provided by different authors

Literature	Soft skills
PMbok guide described by (Shenoy, n.d.): 11 essential soft skill that make a project manager	1) **Leadership**, defined as 'the ability to get things done through others' 2) **Team building**, it is important that 'team members feel safe, collaborate well and trust each other' 3) **Motivation**, 'people have personal and professional needs and goals, and they need to be satisfied on that front'. 4) **Communication**, 'communication is a two way street. Open and honest communication from top-down will ensure the same bottom-up' 5) **Influencing**, lead by example. 6) **Decision making**, two types of decision making; command, consult, consensus, coin-flip (random decision). 7) **Political & cultural awareness**, knowing every team member and their background helps project manager create an environment that they feel most comfortable working in. 8) **Negotiation**, attempt for a win-win situation for both parties 9) **Trust building**, 'A true leader is the one who earns his team's trust, and can trust his team without a doubt in his mind' 10) **Coaching**, helping team member to discover their own potential and elevate themselves from their current position of skill level to next position. It also includes counseling to help people change their mindset about a situation and help perform better. 11) **Conflict management**,
(McKay, 2015)	Verbal communication, interpersonal skills, writing, problem solving & critical thinking, active listening, active learning, organization skills, time management, team player, professionalism, reading comprehension, flexibility and adaptability
(Yaacoub, Husseini, & Choueiki, n.d.): engineering soft skills required by the Golf Cooperation Council (including Saudi Arabia), first 60 soft skills of Phani (2007) grouped into 6 categories	Stamina: staying on the job until it is finished; people/personal: **team skills** & **communication skills** with public, fellow employees, supervisors, and customers; legal/rules: driver's license, language structure: **demand for English**, science/essential skills: **awareness of how business works**; and background: **good reference**.

A.3.1 Background on IPM

For the last decade the main client for public works (Rijkswaterstaat) attempts to consider another way of collaboration with the construction market which is stipulated in the recent market vision[27] (in Dutch: Marktvisie). The new collaboration form requires another approach by the client to the market i.e. close collaboration with contractors instead of the traditional hierarchical relationship between client and contractor. In addition, the same market vision depicts the trends that infrastructural projects are getting more complex and dynamic, new forms of contracts emerge and new technical developments are rapidly evolving, information and knowledge sharing is increasing and that this only can be handled by an integrated approach. To organize projects efficiently and effectively RWS has chosen to structure the projects in a functional fashion i.e. according to Integral Project Management (IPM).

[27] www.marktvisie.nu [accessed June 2016]

Rijkswaterstaat (RWS) is the Dutch Authority for Water and Highway in the Netherlands. RWS is responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands which includes the main road network, the main waterway network and watersystems. RWS is a professional organization which strives for optimal systems. Initially, IPM emerged between 2000 and 2005 in the engineering department of the province South-Holland (Muntinghe, 2015; Jongkind, 2015). According to Jongkind (2015) the first project was the A4 Burgerveen-Leiden where IPM philosophy was practiced prior to the emergence and implementation of IPM within RWS. In 2003 a research called 'LPC-Benchmark top 50' between Berenschot consultancy and RWS concluded that many large public projects across the country were organized differently e.g. project organization, tasks and role distribution, hierarchies in the project organization. This implies that when project team members shifted within the projects, it took a while to adapt to the new project environment. Thus, uniformity was missing within the project organization for all these 50 large projects. Initially, IPM was deployed for the realization phase and afterwards also for the planning phase as a "samenwerkingsmodel" which reflects to the integrality of the concept.

Integral Project Management (IPM) came into view as matter of confluence of various circumstances. IPM emerged in a time when RWS was known as an organization with poor control of the public infrastructural projects. The emergence of IPM occurred in a pragmatic manner rather than a more scientific based research (Wermer, 2015a). On a higher echelon of the organization e.g. ministerial and political level the idea came into view that RWS was out of control on public infrastructural projects.

> *"Het begon destijds bij het verhaal dat RWS, zeg maar projecten moest verbeteren op verschillende domeinen. Er was zeg maar op hoog ambtelijk, politiek niveau het beeld ontstaan dat projecten, grote projecten van RWS niet goed in control waren. En dat niet in control omvatte verschillende aspecten; kostenoverschrijding kwamen regelmatig voor, planning liep vaak uit, risico's ontstonden." (Jongkind, Ontstaansgeschiedenis van Integraal Project Management, 2015)*

Jongkind (2015) explains that not being in control reflects to cost overruns, poor planning, poor quality and most of all the emergence of several risks from different fields. Hence, project control was a matter of improvement. Secondly, not being in control also reflects to the fact that RWS paid less attention on the alignment between the environment and its stakeholder´s interests. According to Jongkind (2015) RWS was characterized as a kingdom inside a kingdom in other words extremely internal oriented organization. Thus, project environment was the second focus area. At the same period RWS was in search for another approach to the construction industry which is mentioned under ´markt tenzij´ principle which means RWS steps back from the expertise and takes the control role instead of executing projects. Due to this development RWS intended to enhance the project organization. The change in role of the organization also means another approach to the construction industry e.g. tendering process changed and EMVI kind of tools emerged, integrated contracts such as Design Build Finance and Maintenance were a fact. Thus, contract is the third focus area to be developed. Often the core of many infrastructural projects has always been the technical staff and technical process of design and realization which forms the backbone of every project. Finally, there is a need for overall projectmanagement to oversee all the interfaces of the different disciplines as it is aforementioned. In fact projects become complex through those five areas e.g. environment, contract, project control, technical management and overall management. To be in control of all these disciplines therefore urges for the professionalization of the different disciplines e.g. project management. RWS took the decision to choose a project method which is tailored for the infrastructural projects in the Netherlands.

A.3.2 Data collection IPM

As this chapter is part of the research and is empirically approached to explore whether IPM will have added value to project-based organizations. IPM is a concept developed by RWS and is further not documented for private organizations. The strategy for collecting data is done through interviews

which were indirectly structured on three question marks: The what of IPM, the why of IPM and the how of IPM.

Participants were connected to this research through snowball method. One of the participants is Freek Wermer who is a specialist in projectmanagement and knowledge provider on IPM. Paul van Rossum as a board member and project manager within the municipality of Amsterdam is extensively involved in the implementation of IPM within the municipality which is the first municipality who has aligned its processes to IPM. Rob Jongkind a former RWS employee who was involved in the research of 'LPC benchmark top 50'. Jongkind was also involved in the development period in the engineering department of the province of South-Holland. Currently, he is a knowledge provider and supports local public organizations to align their processes to IPM. Some of these participants also delivered additional documents which are used to form understanding on the concept.

After collecting the data, most of the conversations are transcribed and afterwards fragments are all labelled namely coded to be analysed. The interviews were structured in three main elements: why, what, how. The 'why' question delivered aspects such as: success factors of IPM, results in project delivery, and reasons to shift towards IPM philosophy. The 'what' question collected data on: aspects within IPM such as IPM thought, conditions, context, and definition. The 'how' question delivered aspects as: transition in phases, implementation of IPM, line management role, small projects and phases.

A.3.3 Project organization program SAA

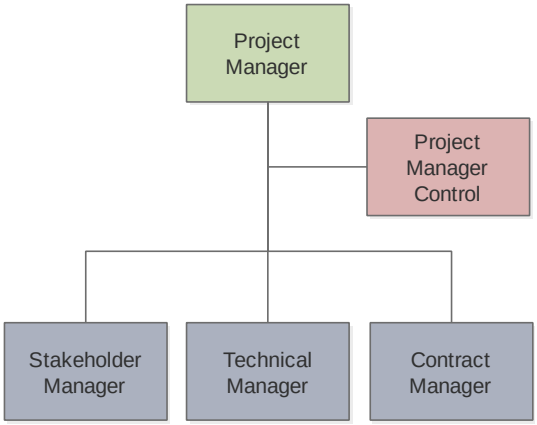


Figure 0-1: Project organization according to IPM

The general idea behind the project organization according to IPM is shown in figure 10. The blue boxes are the rivals whom are interrelated with each other while the red box, the project manager control, is the supporting member for costs, planning, quality and risk management. On the top the project manager is then responsible for the interface between the team members and thus responsible both for the internal as well as external (to the parent organization) commination. Depending on the size of the project the project managers can have the ability on their own experts, see figure 7. For instance the manager project control has access to cost experts or advisors, planners, risk managers, quality managers and other members for scope or change management. The contract manager has access to experts on the field of contracting, procurement and tender managers, contract controllers and negotiators. The technical manager has the access to advisors on design, (functional) specifications, and systems engineers. The technical manager is also the intermediate link between the stakeholder manager and the contract manager. He needs input for the specification from the stakeholder manager and afterwards need to collaborate with the contract manager to implement the specifications into the contract requirements. The IPM project organization in figure 11 might be for a middle size project. One could make the decision for the organization on the basis of the project budget. It is up to the management team of an organization to decide where the limits are.

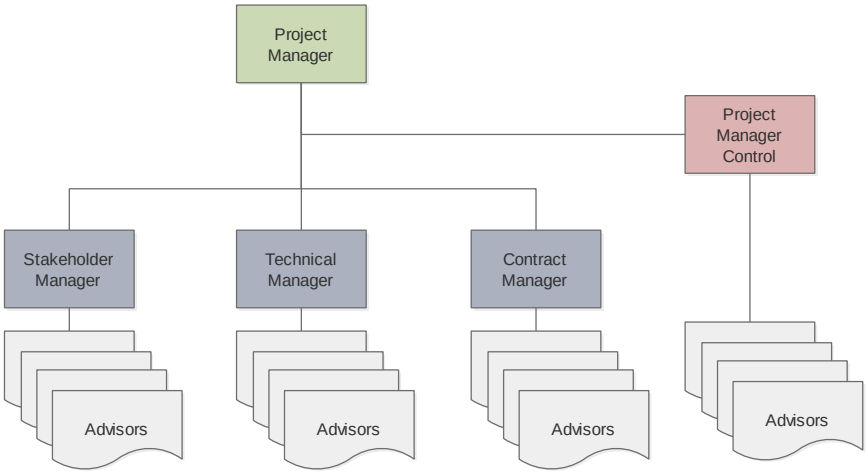


Figure 0-2: Project organization elaborated with advisors

Furthermore, within the Netherlands we also deal with programs. A program is a set of project together. A program is in that perspective a larger entity e.g. program Schiphol, Amsterdam and Almere, with 6 projects into one program with a total budget of 5 billion euros. The project organization is then as follows, as it can be seen in figure 12, with a steering committee and a managing board;

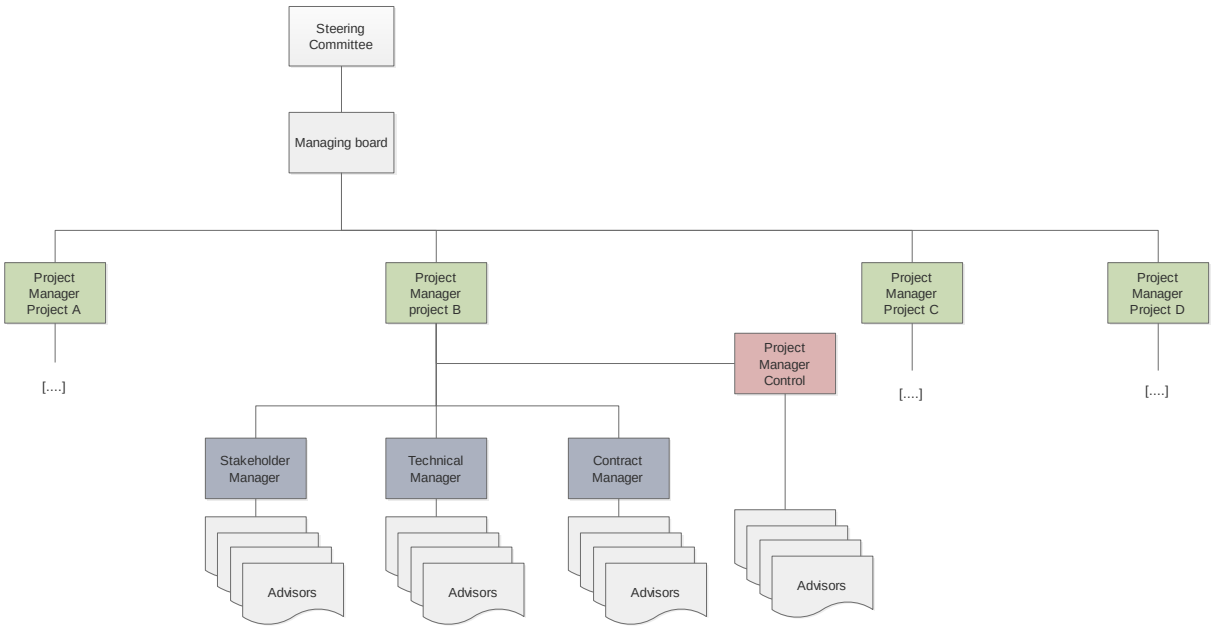


Figure 0-3: A program organized with IPM – construction projects

An extra dimension can be added in the program organization. That is the role of the cluster managers for the several fields. For the SAA program the following project organization was setup with cluster managers;

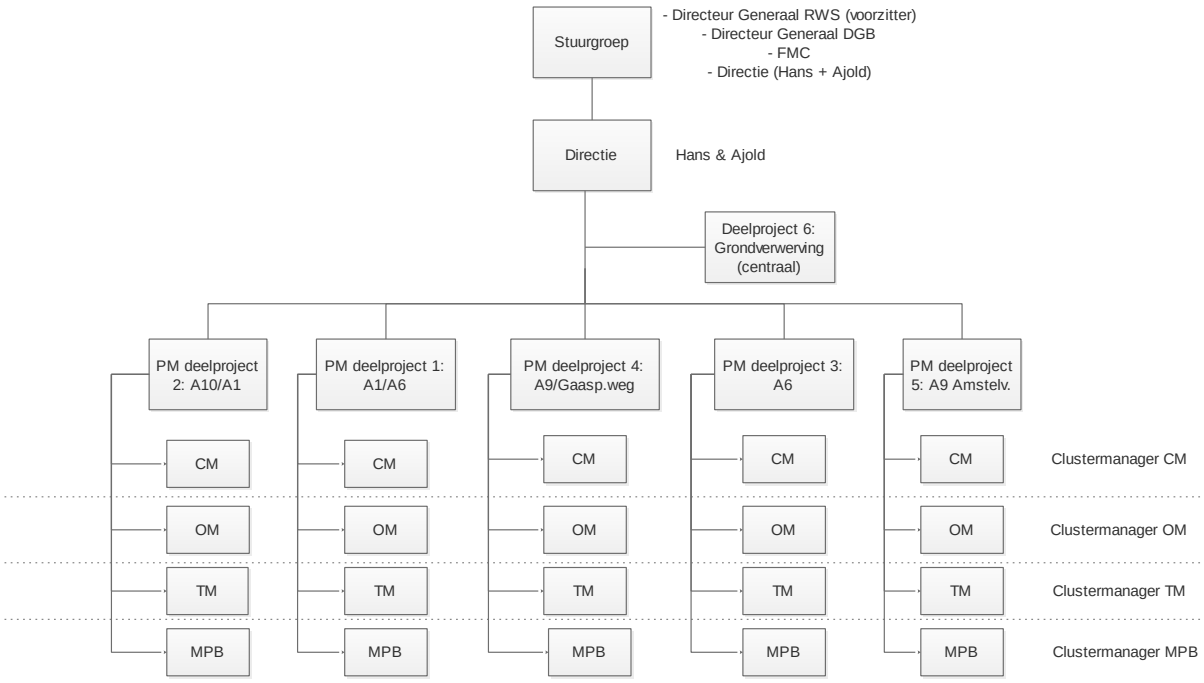


Figure 0-4: Organization Program SAA with cluster managers – construction projects

However, in the program SAA, the cluster managers are dropped says Ajold Muntinghe (2015), managing director for program SAA. The reason was that the director board wanted only one representative per sub project for a clear communication line. Muntinghe has the overall financial responsibility for the program and final decisions are taken by the general director. Muntinghe (2015) adds that for the sub project A9 Gaasperdammerweg, they have chosen in accordance with RWS a manager Tunnel, Technical, Installation. Because this sub project involves a tunnel. According to Wermer (2015a) the IPM concept is not strictly bound on this five working fields. Specifically every project is approached individually by its size, complexity and environment. IPM concept is still in a procedure of development and improvements. All feedback from projects is integrated in the concept.

Initially, we discussed an IPM project organization for a middle size project and for a program i.e. a set of projects. But even for smaller (most of them maintenance) projects the fundamental thought of the IPM concepts stays the same. There are still five working fields. There are two options for maintenance or smaller construction projects (Wermer 2015a; Jongkind 2015; Willemsen 2015; Faber 2015);

- Managers can shift throughout the process to fulfill several roles;
- Or smaller projects on the same discipline (not necessarily) could be combined into one IPM team.

For instance for a small maintenance project of a bridge, the project manager can fulfill also the role of the stakeholder manager while he has an overall view on the project. Willemsen (2015) mentions that at his project bridge at Ewijk, he is responsible for the role of project manager, contract manager and stakeholder manager. For the last mentioned he is supported with an advisor from RWS. After the planning and initiation phase the realization phase is a fact. In this phase the role of the contract manager becomes meaningful, because at this stage the actual service e.g. maintenance or procurement starts. The contract manager is then the link towards the market e.g. the contractor (Willemsen, 2015). A serious matter is here going on when there is a shift in phases from the planning to realization. The role of the project manager becomes less important and the contract manager becomes the key link for the IPM team (Stroeve, 2015). Although the role of the contract manager seems to be too dominant at realization phase. While in essence the horizontal line in the IPM project organization, the roles of stakeholder, technical manager and contract manager are at the same level.

According to Wermer (2015b) you actually need that dominance towards the market. A contract manager should be someone who cannot be trifled away. For further discussion see sub chapter 5.5 on the discussion on the interviews.

A.3.4 Differences between Rhineland culture and Anglo-Saxon culture (Ridder, 2013)

Anglo Saxon culture	Rhinelander's culture
Believe in an Utopic and fully achievable world	Live in existing world
Dogmatic approach of observed phenomena based with on inductive methods	Axiomatic approach of observed phenomena based on deductive methods
Actions based on uncertain certainties	Actions based on certain uncertainties
Actions are initiated on mechanistic cause/consequence reasoning, which is mainly treated in a high rate of mathematical quantification	Actions are based on observations of the behavior of their complex systems in complicated environments
Order-oriented: The output is translated in tactical and operational tasks, which have to be achieved precisely	Mission-oriented: The outcome is more important than the output
Detailed plans which should be executed precisely	Broad overall plan without details, provided with a simple command and communication structure
Hierarchical management organization	Flat organizational structure with semi autonomously operating units
Rule based: extrinsic motivation with employees	Principle based: intrinsic motivation with employees
Centralization of power and responsibilities	Decentralization of power and responsibilities
Punctual Planning and Control cycle	Only basis premises with respect to Why (mission), What (vision) and How (strategy)
Emphasis on control of processes	Emphasis on control of products
Emphasis on standardization and uniformity	Emphasis on tailor made differentiation and variety
Recruitment employees mainly based on competence to pass on commands to lower organizational units	Recruitment employees mainly based on knowledge and skills

A.4.1 Explanation cultural dimensions Hofstede

Power Distance Index (PDI): This dimension deals with the fact that all individuals in societies are not equal – it expresses the attitude of the culture towards these inequalities amongst us. Power Distance is defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally (Hofstede, 2010, p. 57).

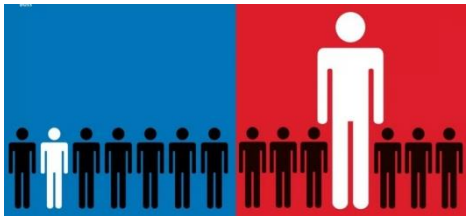


Figure 0-5: The boss (source: Yang Liu, 2015)

Individualism (IDV): The fundamental issue addressed by this dimension is the degree of interdependence a society maintains among its members. It has to do with whether people´s self-image is defined in terms of "I" or "We". In Individualist societies people are supposed to look after

themselves and their direct family only. In Collectivist society's people belong to 'in groups' that take care of them in exchange for loyalty (Hofstede, 2010, p. 92).

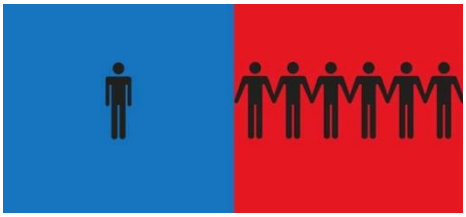


Figure 0-6: "I" versus "We" (source: Yang Liu, 2015)

Masculinity Index (MAS): A society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. A society is called feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life (Hofstede, 2010, p. 140).

Uncertainty Avoidance Index (UAI): The dimension Uncertainty Avoidance is defined as the extent to which the members of a culture feel threatened by ambiguous or unknown situations: should we try to control the future or just let it happen? This ambiguity brings with it anxiety and different cultures have learnt to deal with this anxiety in different ways (Hofstede, 2010, p. 191).

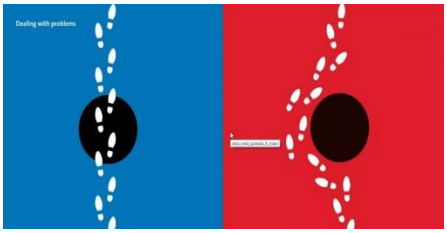


Figure 0-7: Dealing with problems (source: Yang Liu, 2015)

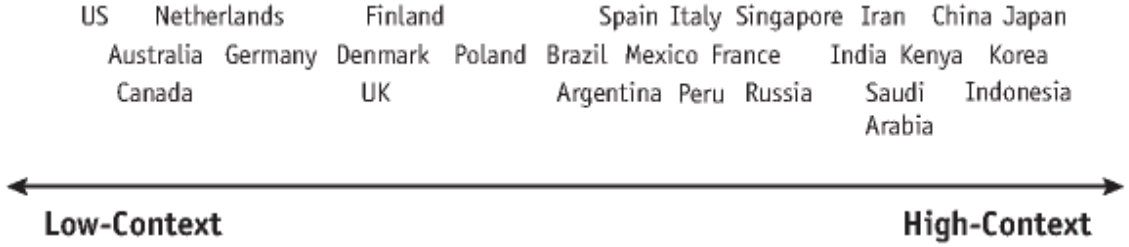
Long-Term Orientation (LTO) Index: Long-term orientations stands for the fostering of virtues oriented toward future rewards – in particular, perseverance and thrift. It opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present – in particular, respect for tradition, preservation of "face", and fulfilling social obligations. Thus, this dimension describes how every society has to maintain some links with its own past while dealing with the challenges of the present and future, and societies prioritize these two existential goals differently. Normative societies, which score low on this dimension, for example, prefer to maintain time-honored traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future (Hofstede, 2010, p. 239).

Indulgence versus Restraint (IVR): Indulgence stands for a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun. Its opposite pole, restraint, reflects a conviction that such gratification needs to be curbed and regulated by strict social norms. This dimension is defined as the extent to which people try to control their desires and impulses, based on the way they were raised. Relatively weak control is called "Indulgence" and relatively strong control is called "Restraint". Cultures can, therefore, be described as Indulgent or Restrained (Hofstede, 2010, p. 281).

A.4.2 Explanation cultural dimension Meyer

Communicating – Low-context vs. high-context

"When we say that someone is a good communicator, what do we actually mean? The responses differ wildly from society to society. I compare cultures along the Communicating scale by measuring the degree to which they are high- or low-context, a metric developed by the American anthropologist Edward Hall. In low-context cultures, good communication is precise, simple, explicit, and clear. Messages are understood at face value. Repetition is appreciated for purposes of clarification, as is putting messages in writing. In high-context cultures, communication is sophisticated, nuanced, and layered. Messages are often implied but not plainly stated. Less is put in writing, more is left open to interpretation, and understanding may depend on reading between the lines."



Evaluating – Direct negative feedback vs. indirect negative feedback

"All cultures believe that criticism should be given constructively, but the definition of "constructive" varies greatly. This scale measures a preference for frank versus diplomatic negative feedback. Evaluating is often confused with Communicating, but many countries have different positions on the two scales. The French, for example, are high-context (implicit) communicators relative to Americans, yet they are more direct in their criticism. Spaniards and Mexicans are at the same context level, but the Spanish are much more frank when providing negative feedback. This scale is my own work."

Persuading – Principles-first vs. applications-first

"The ways in which you persuade others and the kinds of arguments you find convincing are deeply rooted in your culture's philosophical, religious, and educational assumptions and attitudes. The traditional way to compare countries along this scale is to assess how they balance holistic and specific thought patterns. Typically, a Western executive will break down an argument into a sequence of distinct components (specific thinking), while Asian managers tend to show how the components all fit together (holistic thinking). Beyond that, people from southern European and Germanic cultures tend to find deductive arguments (what I refer to as principles-first arguments) most persuasive, whereas American and British managers are more likely to be influenced by inductive logic (what I call applications-first logic)."

Leading – Egalitarian vs. hierarchical

"This scale measures the degree of respect and deference shown to authority figures, placing countries on a spectrum from egalitarian to hierarchical. The Leading scale is based partly on the concept of power

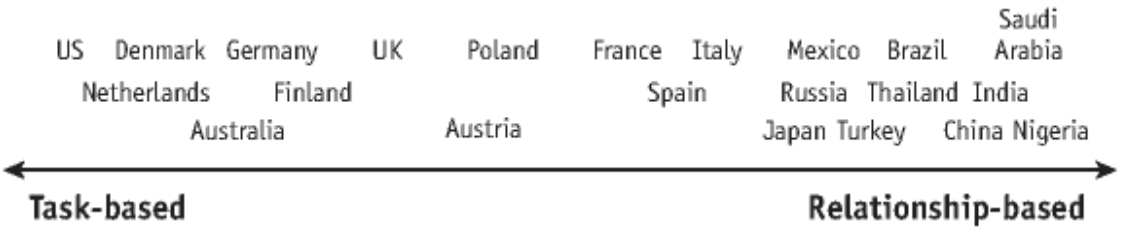
distance, first researched by the Dutch social psychologist Geert Hofstede, who conducted 100,000 management surveys at IBM in the 1970s. It also draws on the work of Wharton School professor Robert House and his colleagues in their GLOBE (global leadership and organizational behavior effectiveness) study of 62 societies."

Deciding – Consensual vs. top-down

"This scale, based on my own work, measures the degree to which a culture is consensus-minded. We often assume that the most egalitarian cultures will also be the most democratic, while the most hierarchical ones will allow the boss to make unilateral decisions. This isn't always the case. Germans are more hierarchical than Americans, but more likely than their U.S. colleagues to build group agreement before making decisions. The Japanese are both strongly hierarchical and strongly consensus-minded."

Trusting – Task-based vs. relationship-based

"Cognitive trust (from the head) can be contrasted with affective trust (from the heart). In task-based cultures, trust is built cognitively through work. If we collaborate well, prove ourselves reliable, and respect one another's contributions, we come to feel mutual trust. In a relationship-based society, trust is a result of weaving a strong affective connection. If we spend time laughing and relaxing together, get to know one another on a personal level, and feel a mutual liking, then we establish trust. Many people have researched this topic; Roy Chua and Michael Morris, for example, wrote a landmark paper on the different approaches to trust in the United States and China. I have drawn on this work in developing my metric."



Disagreeing – Confrontational vs. avoids confrontation

"Everyone believes that a little open disagreement is healthy, right? The recent American business literature certainly confirms this viewpoint. But different cultures actually have very different ideas about how productive confrontation is for a team or an organization. This scale measures tolerance for open disagreement and inclination to see it as either helpful or harmful to collegial relationships. This is my own work."

Scheduling – Linear-time vs. flexible-time

"All businesses follow agendas and timetables, but in some cultures people strictly adhere to the schedule,

whereas in others, they treat it as a suggestion. This scale assesses how much value is placed on operating in a structured, linear fashion versus being flexible and reactive. It is based on the "monochronic" and "polychronic" distinction formalized by Edward Hall."

A.4.3 Anglo-Dutch translation guide

ANGLO-DUTCH TRANSLATION GUIDE		
What the British say	**What the British mean**	**What the Dutch understand**
I hear what you say.	l disagree and do not want to discuss it any further.	He accepts my point of view.
With the greatest respect...	I think you are wrong (or a fool).	He is listening to me.
That's not bad.	That's good or very good.	That's poor or mediocre.
Quite good.	A bit disappointing.	Quite good.
Perhaps you would like to think about... I would suggest...	This is an order. Do it or be prepared to justify yourself.	Think about the idea, but do what you like.
When appropriate locally...	Do what you like	Do it if you can.
Oh, by the way… Incidentally….	The primary purpose of our discussion is	This is not very important.
I was a bit disappointed that… It is a pity you…	I am most upset and cross.	It doesn't really matter.
Very interesting.	I don't agree / don't believe you.	They are impressed.
Could we consider some other options?	I don't like your idea.	They have not yet decided.
I'll bear it in mind.	I will do nothing about it.	They will probably do it.
Please think about that some more.	It's a bad idea: don't do it.	It's a good idea: keep developing it.
I'm sure it's my fault.	It is your fault !	It was their fault.
That is an original point of view.	You must be crazy.	They like my ideas!
You must come for dinner sometime.	Not an invitation, just being polite.	I will get an invitation soon.
You'll get there eventually.	You don't stand a chance in hell.	Keep on trying for they agree I'm heading in the right direction.
I almost agree.	I don't agree at all.	He's not far from agreement.

Source: Ripmeester (2005)

Nannette Ripmeester is a consultant to the European Commission and the governments of Belgium, Finland, Ireland and the Netherlands

A.4.4 Quotes from interview with Majid Matbouly (local Arab)

[1]…. Understanding the territory and adapting to this territory is the biggest challenge.
[2] …. You have a **higher chance to success** with someone who is **flexible and willing to change and adapt into the new territory than someone who is strict and says no I do not want to adapt or we should do that way** etc. You have to look for guys who have a link with the region. See if they are **flexibl**e or **adaptable**, there people who have adapted the culture and talk with the locals and understand the culture.
[3] ….there is a bunch of courses on soft skills, but soft skills are not something that you say you can learn in a course. People are born leaders, people are born to speak well, and there are people who are better in soft skills without any practice or learning.
[4] …there was a clever man, whose name I forgot. He said; "hire for attitude and train for skills". So if you have the right attitude, you can train that person to a certain skills. You can train him to project management skills etc. As long as he has the right attitude and knowledge. Then you can carry on. But you have an expert or genius who has not the right attitude, will fall.
[5]… again you cannot teach someone in a class or through a book how to deal with the culture . You can only give some hints. You can only help to give the key but you cannot unlock the door for someone.
[6] … **you can have a superstar (project manager) in the Netherlands and he may not succeed in Saudi or Qatar or Nigeria. But you can have an average project manager in Saudi and he can be successful**. Because **the culture and attitude play an important role**. And it's vice versa. You can have a superstar in Saudi Arabia as a project manager or operational manager but he fails into another culture.
[7] … I have empathized this many times; **soft skills and cultural differences can make you or break you, this is really important. In the Middle-East (in general), in our side of the world, we are a bit more relying on social level**. When you go to Europe, everything is written, everything is documented, everything has contract. Am I right? But in general everything relies back to a social level of commitment and understanding and trust. If you build that with the client, that's of course important everywhere in the world. Here it's a bit higher. Important is that you build a trust-relationship with those client. Building a social status with the client. You have to be buddy and going out to a restaurant or golf.
[8] … building trust is not something you can do in one meeting; it's a long term relation.
[9] … I am not trying to out way capability. Capability is the number one to do anything in general. So that is given, in our company, thank God, we have a group of real professionals.
[10] … They (Arab clients) like international civilization. They like European, Americans, Canadians, they like in general every civilized culture who are here, to a certain extent of course.
[11] … it is more powerful when they see the mixture between local stuff and European (in our case). It's really powerful. You have local flavour, and your actually committed to be here. You bring expertise from abroad. That's a good mixture.

A.8.1 Cross cases analysis of the results

See next page.

Table 0-1: Outcome unit of analysis: individual, cultural and organizational aspects [CONFIDENTIAL]

Analysis individual aspect				
Outcome analysis sub-unit	**Case 1: Infra**	**Case 2: Traffic**	**Case 3: U&D**	**Overall analysis**
Project organization & project management				
Arabic role				
Competences				
Analysis cultural aspect				
Outcome analysis sub-unit	**Case 1: Infra**	**Case 2: Traffic**	**Case 3: U&D**	**Overall analysis**
Universalism: *Ethnocentrism & deviation between personal and professional intercourse*				
Power distance: *Status, hierarchy, bureaucracy, authority (leading)*				
Long vs. short term orientation: *decision-making*				

Uncertainty avoidance: *Tour of justification, judgemental role*				
Concept of time and money: *Sense of responsibility, perception*				
Collectivism: *Trust, loyalty, personal relations, networking, strong sense of shame for losing face*				
Analysis organisational aspect				
Outcome analysis sub-unit	**Case 1: Infra**	**Case 2: Traffic**	**Case 3: U&D**	**Overall analysis**
Pennywise-Poundfoolish				
Opposing interests departments (HAG)				
Intern Schooling				
HRM				

AD.1 Curriculum Vitae

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Sex Male | Date of birth 09/01/1987 | Nationality Dutch

EDUCATION

Sept. 2012 - present	**Master Construction Management and Engineering** University of Technology in Delft, the Netherlands *Subjects: Legal & Governance, Cross Cultural Management, Financial Engineering, Dynamic Control of Projects, Project Management & Process Management*
Sept. 2011 – Dec. 2012	**Pre-Master Construction Management and Engineering** University of Technology in Delft, the Netherlands *Subjects: Risk analysis, Statistics, Calculus, Linear Algebra, Systems Engineering*
Sept. 2006 – Feb. 2011	**Applied Science for Building Engineering** University of Rotterdam, the Netherlands *Subjects: Construction management and Administration, Work preparation, work and resources planning, site design & organization, work estimation & financing, purchase & contract management, budget implementation*

WORK EXPERIENCE

Feb. 2008 – July 2009	**Part-time job as Junior Construction Engineer** At VOCON Engineering B.V. in Papendrecht, the Netherlands *Work experience: designing the reinforcement, verifying received drawings from architect or suppliers*
Jan 2000 – present	**Various part-time jobs** *Insigne, Total cashier, Texaco cashier, Auto van Wijngaarden car sales, STAM transport, LOTAX transport*

GRADUATION PROEJCTS

July. 2015 – Present	**Master graduation research project** At Royal HaskoningDHV in Amsterdam, the Netherlands *Subject: An empirical research towards the applicability/transferability of the Integral Project Management concept, which is developed by the Dutch Authority of Water and Highway, to the Saudi Arabian cultural context.* *Key words: Transplantation, Integral Project Management, project organisation, Human Factor, Cultural differences, Saudi Arabia, Construction industry, comparative case study, expats*
March 2010 – Aug. 2010	**Bachelor graduation research project** At Ballast Nedam Bouw West in Capelle aan den Ijssel, the Netherlands *Subject: Minimizing maintenance costs by intervening during design phase within Public Private Partnership projects from the perspective of the contractor.* *Key words: Maintenance and Operation, Design Build Finance Maintenance and Operation contract type, PPP, sustainable building materials*

INTERNSHIPS

Sept. 2009 – Feb. 2010	**Learn and Build** At Woonbron (housing corporation) in Dordrecht, the Netherlands *Subject: The restoration and displacement of a national monument* *Experience obtained: Designing existing plan, studying historical background monument, obtaining required permits from the municipality*
July 2008 – Jan. 2009	**Intern abroad, Sint Maarten, The Netherlands Antilles** At Pream Architects (Projectmanagement, design & realization) in Sint Maarten, the Netherlands Antilles. Subject: Build experience with foreign internship Experience obtained: Various activities existing of design, maintenance plans, hurricane claim reports, research, supervising, auditing, zoning plan Sint-Eustatius, 3D design

PERSONAL SKILLS

MOTHER TONGUE(S): Dari/Dutch

OTHER LANGUAGE(S)

	UNDERSTANDING		SPEAKING		WRITING
	LISTENING	READING	SPOKEN INTERACTION	SPOKEN PRODUCTION	
English	C1	C1	C1	C1	C1
	International English Language Testing System - The IELTS TOEFL Centre | May 2011				
Arabic	A1	A2	A1	A1	A2
	I love the Arabic language and aim to learn the language on professional level soon				
Urdu	B1	A2	A2	A2	A1

A = BASIC USER *B = INDEPENDENT USER* *C = PROFICIENT USER*

COMMUNICATION SKILLS: I have gone through several internships within different disciplines whereby I learned to communicate on the professional level.

ORGANISATIONAL / MANAGERIAL SKILLS: As a volunteer I helped my coach to build a multicultural soccer team. My role as player and captain of the team was to regulate all the administration and organize the events & meetings. I have learned a lot on the cross cultural part but also on financing

OTHER SKILLS: With an international internship I have also proven to be adaptive to other circumstances and culture

DIGITAL COMPETENCE

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Independent user	Proficient user	Proficient user

I am agile to any software program related to my field due to my ability to learn fast and adapt fast.

DRIVING LICENCE: B

CERTIFICATES & DIPLOMES

JUNE 2010	Safety for Operational Supervisors SCC Certificate
APRIL 2009	Construction Management Certificate – Simulation Centre in Groningen, the Netherlands