

# **The Uncharted Waters of Innovative Project Best-Practices**

An explorative study of Innovation Portfolio Management and Project Management in Dutch Service SMEs

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Thank you for taking the time to read my Master thesis which is the end of my final research project to successfully graduate from the master Innovation & Entrepreneurship at the Radboud University in Nijmegen. This last year gave me the opportunity to recognize the valuable lessons learned in both theoretical and personal fields during my studies. In this period, I received helpful support from a variety of people. Therefore, I would like to express my gratitude to the following people.

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It is time to build up some structure myself by diving into the opportunities, challenges and experiences of the working life. The only thing remaining to say is, enjoy the read!

Pim Willem Michael Maertzdorf

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## Abstract

Innovation Portfolio Management (IPM) has had a lot of attention over the years. However, this attention is mainly focused on the bigger organizations who mainly operate in the manufacturing industries of society. This study aims to broaden our knowledge of IPM in the service-oriented field of the “forgotten” smaller and medium-sized firms (SMEs) which can be seen as the backbone of the industries in the Netherlands.

Therefore, this research aims to advance our knowledge of the IPM practices in Dutch service SMEs. By gathering multiple theories and exploring how applicable these are in the practical fields the following research question has been formulated: *“How do Dutch SMEs in the service sector structure their Innovation Portfolio Management?”*.

Furthermore, these insights from theory stimulate to advance our knowledge about IPM in a more practical manner. This has been done through seven semi-structured interviews with SMEs in the service consultancy sector. Two additional interviews were held with experts on the matter of IPM. This was done to verify certain results and see if it was generalizable for further research. In addition, it is important to note that in the transcripts there was a mixture between customer order projects which include Engineer to Order (EtO), Configure to Order (CtO) and Innovate to Order (ItO) projects and the actual innovation projects in the firm’s portfolio. However, in the case of Dutch Service SMEs, most of the projects which can be read as EtO or CtO had a correlation with ItO projects or could even lead to eventual innovation projects for the firm.

The results show that firms in practice often deviate from the suggested best IPM practices on both strategic and operational sides. Informal structures which provide flexibility are adopted instead. The most common method Agile: Scrum is used by almost all respondents which could be generalized based on the opinions of the two experts. Structural providence is the main added-value of IPM in SMEs who mostly operate IPM in a very basic and low form.

In the end, this study extends the existing literature and knowledge about IPM and Project Management in combination with the gaps in the literature regarding Dutch Service SMEs. The outcome of this study is an incremental step towards an overall accomplishment to mature literature and knowledge about both combined matters. The proposed outcomes and insights enable researchers to start future studies about IPM, Project Management and SMEs in the Netherlands.

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## List of Abbreviations

CEO = Chief Executive Officer

CFO = Chief Financial Officer

CtO = Configure to Order

EtO = Engineer to Order

ICT = Information and Communications Technology

I&E = Innovation & Entrepreneurship

IPM: Innovation Portfolio Management

IPPM: Innovation Project Portfolio Management

IT= Information Technology

ItO = Innovate to Order

PM = Portfolio Management

PMB = Portfolio Management Board

PMO = Project Management Office

PPM = Project Portfolio Management

NPD = New Product Development

OPM = Operational Portfolio Management

SMEs = Small and Medium Enterprises

SPM = Strategic Portfolio Management

R&D = Research & Development

ROI = Expected Return on Investment

WBSO = Wet Bevordering Speur- en Ontwikkelingswerk

# 1 Introduction

## 1.1 Introduction of the topic

From a business perspective Innovation Portfolio Management has had a lot of attention over the previous years (Meifort, 2015). In this thesis, the portfolio of firm's innovation, strategic and operational processes are centralized. Indicating, that it will not be focusing on how firms use their current products and services as used for marketing purposes. Innovation Portfolio Management is a dynamic process of deciding the right choice at the right time. Selecting the perfect mix of projects while continuously adapting and evaluating it based on pre-established criteria and current circumstances (Project Management Institute, 2017). Due to increasing complexity of technologies together with shorter life cycles, firms are forced to rely and evaluate their products, services and technology portfolio to achieve growth and profitability (Mikkola, 2001).

Scientifically, IPM has been in the spotlights over the years. Loads of journals and books can be found discussing different tactics and roles of Innovation Portfolio management. For example, the recent work of Kopmann et al. (2017) discussed the role of PM in both deliberate and emergent strategies. While Thiadens and Steenbakkers (2010) focused on how PM is commonly used in the Netherlands and Wideman (2004) discussed multiple levels of PM.

This attention motivates to study the subject in this Master Thesis research. Does the literature match the current practices of firms in the Dutch economy? Especially, while most of the IPM research focusses on the larger firms within production industry (Meifort, 2015), SMEs in the service industry should not be forgotten. These small and medium-sized enterprises are the backbone and beating pulse of economic growth, innovation and entrepreneurship of Europe's economy. Ninety-nine percent of all businesses in the EU are SMEs (European Commission, 2020). For small firms the innovativeness of the firm and allocation of resources to the right projects increases the possibility to survive the challenges of entrepreneurship and growth (Elena Cefis, 2003). Furthermore, SMEs have the benefit of speed and flexibility, for example when new trends emerge, decisions can be made faster, exploiting these new trends early on when entry costs are still low. The larger firms are not able react quickly and follow later on due to higher costs and rigidity (Chesbrough, 2010).

## 1.2 Research motivation

The above-mentioned literature provides insights into both practical and academic sides of Innovation Portfolio Management and (service) SMEs.

Firstly, it showed that portfolio management is an important factor for the growth, profitability and overall success of firms. Additionally, a lot of academic research can be found about the topic, but mainly focused on the bigger firms in society (Meifort, 2015). However, the impact of IPM is far greater on both macro and micro level for SMEs. SMEs are the backbone of the Dutch economy and stand for 99% of all firms in the Netherlands (CBS, 2020). Furthermore, on a micro level, IPM of SMEs has higher impact on their success. Good or wrong decisions in IPM may lead more impactful innovations and changes for the firms compared to their larger counterparts. To elaborate, the SME Swapfiets, a service-focused firm, is a great example since it rapidly developed itself by making good decisions. Leading to the disruption and innovation of the bicycles market by providing lease bikes.

However, there has not been an explorative qualitative research into the Dutch service SMEs yet. Based on Meifort (2015) only one study involves SMEs in the form of a conceptual illustrated case study by Lawson et al. (2006) which covers the implementation of a hybrid R&D selection tool in SMEs. This study will combine the above-mentioned topics to understand the Innovation Portfolio Management of Dutch service SMEs. Extending the scientific literature regarding IPM and SMEs in the Netherlands.

## 1.3 Problem statement

The actual problem consists of two parts. Firstly, it seems that the Dutch service SMEs are neglected in terms of Innovation Portfolio Management research and literature (Meifort, 2015). Secondly, while bigger organizations have been researched extensively, the assumption can be made that IPM is different for smaller and medium-sized firms due to the different characteristics, environmental influences and typologies. To define the scope of the research Dutch SMEs will be studied to enable research into IPM of the service industry. An explorative research has been carried out to fill this gap in the current available literature.

This motivated to pursue the following research question: *How do Dutch SMEs in the service sector structure their Innovation Portfolio Management?*

## (Sub)questions

The research consists of theoretical and analytical parts. Therefore, the main research question is divided in multiple (sub)questions.

- What is theoretically known about good IPM-practices in the service industry?
- To what extent are these IPM-practices applicable in and/or applied by SMEs, and what are different/additional IPM-practices?
- To what extent do Dutch Service SMEs structure their portfolio? Additionally, what is the added-value?
- How does Innovation Portfolio Management look like for Dutch Service SMEs? Emergent or deliberate?
- On what level of IPM do Dutch service SMEs operate?

## 1.4 Theoretical and Practical Contribution

Literature indicated that portfolio management (PM) can be a very important part for all sorts projects within firms (Levine, 2005). Especially, the PM success factors have been researched a lot. However, the management process of Innovation Portfolio Management has been left behind in SMEs (Meifort, 2015). The conceptual case study by Lawson et al. (2006) is the only one focused on SMEs according to Meifort (2015). Most of the research is focused on the larger firms with a manufacturing background in the current economy (Meifort, 2015). This indicates that the service industry and SMEs seem to be under-researched. The outcome of this research adds to the theoretical sides of IPM, considering that the theories available contain gaps, which can be enhanced or completed by using insights of other studies and theories. Furthermore, this research will contribute to the theory of five levels of Portfolio Management based on Wideman (2004). Combined with the article of Thiadens and Steenbakkens (2010), who describe how portfolio management in the Netherlands looks like. Providing potential to explore and expand the literature of IPM in the Netherlands.

Next to the theoretical contribution, the outcome of this research is practically relevant for smaller and medium enterprises within the service industry. Due to the fact, that not a lot of exploration has been done in this field. It could help firms to recognize their IPM process and how they should innovate it. Giving them a clearer insight into their managerial way of dealing with their IPM processes. The results of the research will have the potential to educate and show managers within these SMEs which level they are in, together with a clearer insight into their own IPM.

In the end, the outcome of this study will combine practical and theoretical insights from portfolio management, the service industry and Dutch SMEs to fulfill an academic contribution to both views.

### 1.5 Thesis Structure

The thesis structure will be divided in multiple subchapters. In chapter 2 a literature review will be provided including the important subjects and literature for the research. The 3<sup>rd</sup> chapter gives a detailed description of the methodology. The results of the analysis will be shown in chapter 4. Finally, a conclusion of the results is added in chapter 5. Followed by the discussion in the 6<sup>th</sup> chapter which addresses the subjective interpretation, implications, limitations and suggestions for further research.

## 2 Literature review (theoretical framework)

In this chapter relevant literature for the research will be discussed. First of all, an introduction will be made into Innovation Portfolio Management and the theories behind it. Thereafter, more information on processes of this portfolio will be covered. In the next subchapter, a more detailed description about SMEs characteristics will be made with an additional focus on the Dutch service market to finalize all literature. These insights are, among others, used to define the key concepts to be able to build the theoretical framework which will be included at the end of the chapter. Here all assessment criteria will be summarized.

### 2.1 Innovation Portfolio Management

The next section will provide more information about the history and core of Innovation Portfolio Management. Followed by the portfolio management in the Netherlands and the portfolio mix. In these chapters PPM is used as an extension to the literature of IPM.

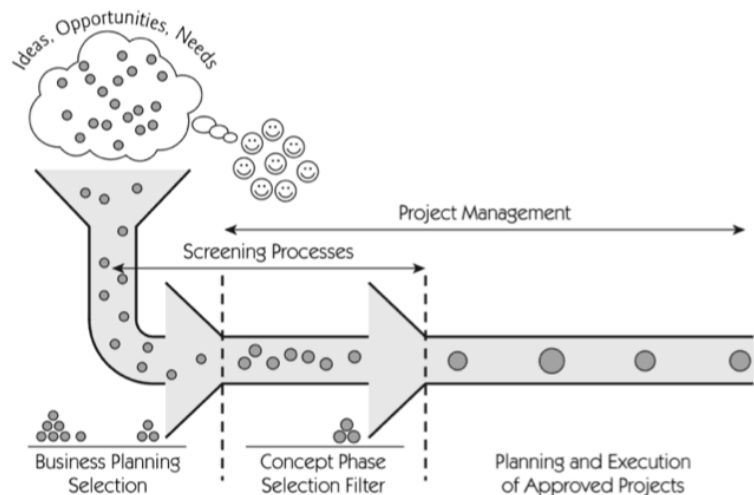
#### 2.1.1 Portfolio Management

As mentioned in the introduction of this thesis, portfolio management is a pillar in a firm's strategy mix to gain growth, profitability and success. Before relevant theories will be discussed, a more in-depth definition of PM is needed.

Principally, it is the art of selecting the right investments for a firm or individual while minimizing the risks and maximizing the potential returns. Portfolio management concerns itself with the structuring, innovating and managing of a firm's investment assets. However, another distinction has to be made between two different definitions of investment assets. On one side it can refer to individual investments in bonds, cash, stocks and mutual funds (MSG, 2020). On the other hand, this thesis focuses on the second definition: how firms manage their portfolio of projects also known as project portfolio management which aims at maximizing the contribution of the firms projects to the overall welfare and success of the enterprise (Harvey, 2005). PPM should not be mistaken for an extension of Project Management Harvey

(2005) argues, both are important but not similar. The best way to see the difference between the two is to look at the Project Portfolio Life Span. Normally, the life span of a project would be from authorization to the final delivery. But in PPM, this is expanded at both the start and the end. Based on Wideman (2004) it consists out of multiple

Figure 1 Project Life Span Framework



Source: (Harvey, 2005)

components shown in figure 1. The distinction made between PPM and project management can be seen in the final phase which continues “outside” the figure (Harvey, 2005). shows that the delivery is not enough to measure success, the actual proposed benefits of the project have to be evaluated to check if they were in fact achieved.

To be able to contribute to the overall welfare and success of the firm. The firm’s projects need to be aligned with the strategy and goals, its culture and values, (in)directly contribute to a positive cash flow. Therewith, enhancing the firm’s position for future success and effectively resource usage. Based on Harvey (2005) this cannot purely from within the project’s domain. It is required to gain the cooperation of several core components and systems of the firm. Two different stages can be identified when looking at PPM process. First of all, the selection and prioritization of projects for the portfolio (Screening Processes). Secondly, dealing and managing the projects within the portfolio (Portfolio Management). Both affect each other, concluding that consolidation is needed (Harvey, 2005). Lastly, supporting processes of PPM should not be forgotten, while projects are able to touch multiple departments, resources and aspects of a firm. It can be quite the challenge to bring all of the supporting processes such as operations, financials, functional and marketing within PPM together.

Looking on the importance of the retrieved value of a project, it is highly relevant to identify how to rank this value. One of the most well-known factors is the expected return on investment (ROI). However, Harvey (2005) shows that factors such as alignment with strategic plans, balance between projects and investments, effective use of resources and ancillary benefits should be considered next to ROI, arguing a broader view of ranking retrieved value.

A balanced scorecard approach where all the factors are listed and weighted could ensure that an aggregated score for each project could be gained. An example of a such a balanced scorecard has been added in Appendix A. Based on the article of Devine, Kloppenborg and O'Clock (2010) the balanced scorecard integrated factors which showed increased project success within the perspective. They based their balanced scorecard on the four dimensions by Kaplan and Norton consisting out:

1. Growth/innovation
2. Internal Processes
3. Customer
4. Financial Perspectives

An explanatory framework was added in figure 2 which is the simplified version of the actual balanced scorecard approach shown in Appendix A.

*Figure 2 Balanced Scorecard Approach*

<b>Customer</b>	<b>Internal Project</b>	<b>Finance</b>	<b>Growth/Innovation</b>
Scope	Integration	Schedule	Participant development
Quality	Risk	Cost	Knowledge management
Stakeholder satisfaction	Communications	Profit	
	Procurement	ROI	
		Market Share	

*Source:* Adapted from Kloppenborg, TJ, *Contemporary Project Management*, South-western Cengage Learning, Mason, OH (2009); Stewart, WE, "Balanced Scorecard for Projects," *Project Management Journal*, vol. 32 (1) p. 45 (2001); and Norrie, J, Walker, DHT, "A Balanced Scorecard Approach to Project Management Leadership," *Project Management Journal*, vol. 35 (4) pp. 52–53 (2004).

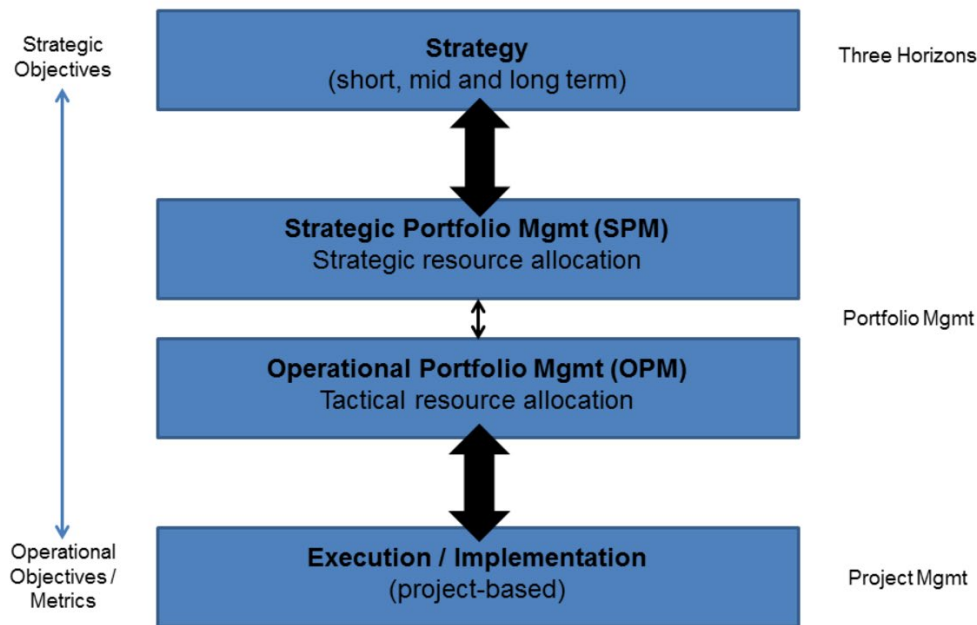
*Source: (Devine , Kloppenborg, & O'Clock, 2010)*

### 2.1.2 Strategic & Operational Innovation Portfolio Management

IPM can be divided into two parts, strategic, and operational portfolio management (McFarthing & Ohr, *Managing Innovation Portfolios – Strategic Portfolio Management*, 2013). The strategic portfolio management (SPM) focuses that the right innovation initiatives are chosen to be pursued and backed with the necessary resources. Operational portfolio management (OPM) aims at ensuring that the selected projects are successfully executed and do not interfere with others. In figure 4, the authors show that Innovation Portfolio Management

can be identified as a transmission between strategical definitions and projects executions, ensuring that the requirements from both SPM and OPM are integrated.

*Figure 3 IPM as an Integrator for Strategy and Project-based Execution*



*Source: (McFarthing & Ohr, Managing Innovation Portfolios – Strategic Portfolio Management, 2013)*

In addition, McFarthing and Ohr (2013) mention that the best way to guide IPM, should be through the usage of a project management office (PMO) or a portfolio management board (PMB) in combination with a supportive senior management within the organization. These departments would define the firm's IPM by the willingness to continuously assess and optimize the portfolio while covering both a variety in short and long-term initiatives without losing focus and balance in the portfolio.

The balancing of a firm's innovation portfolio can be complex due to the different scopes, strategies, time frames and necessary resources. Especially, while firms need both short-term to exploit and get returns on investments, and long-term to ensure survival. The three horizons model shown in table 1, could be used to categorize and manage innovation initiatives across the different characteristics and provide organizations potential to create a sustainable innovation management of recognizing future businesses in parallel to the optimization of the current ones (McFarthing & Ohr, Managing Innovation Portfolios – Strategic Portfolio Management, 2013).

Table 1 The Three Horizons

	Horizon 1	Horizon 2	Horizon 3
<b>Time frame</b>	Short-term	Mid-term	Long-term
<b>Scope</b>	Core business	Growth business	Future business
<b>Strategic focus</b>	Exploit and optimize existing business, incremental innovation	Expand existing and build new business, adjacent innovation	Explore options, place small bets on emerging opportunities, radical/business model innovation
<b>Metrics</b>	Return on Investment (ROI), Net Present Value (NPV)	Real Option Value	Real Option Value
<b>People</b>	Maintainers	Builders, Intrapreneurs	Champions, Explorers, Mavericks
<b>Capabilities</b>	Fully assembled	To be acquired or developed	Requirements uncertain

Source: (McFarthing & Ohr, *Managing Innovation Portfolios – Strategic Portfolio Management*, 2013)

In their second article McFarthing and Ohr (2013) discuss the operational side of IPM which is focused on the direct allocation of resources, metrics and reporting. Operational portfolio management covers the implementation of the innovation strategy, helping the firm to implement the current portfolio while efficiently managing multiple projects. Furthermore, it allows the management of interdependencies across on-going projects, maximizing efficiency. In these projects different departments could be involved. OPM provides these departments the possibility to individually plan their activities, allocate their resources and deliver the right commitments.

The above mentioned three horizons model provides, at a SPM level, the opportunity to determine the amount of resources available for projects. Good OPM is needed to ensure this is also followed into practice, to eventually finish projects.

The implementation of OPM contains a key sequence shown in table 2. This is a follow-up based on the discovered strategic targets and priorities from the SPM cycle. The authors underline that OPM is all about communication and should be a people-driven process, where each group provides an input to the main contribution from SPM, while identifying potential opportunities and areas of conflict (McFarthing & Ohr, *Managing Innovation Portfolios – Strategic Portfolio Management*, 2013).

Table 2 Phases of OPM Implementation

Phase	Purpose
<b>Analyze</b>	Understand the projects and potential linkages arising from SPM
<b>Involve</b>	Seek the input of all resource groups
<b>Align</b>	Build one innovation project portfolio to which all resource groups are committed
<b>Execute</b>	Implement the plan with regular progress reviews

Source: (McFarthing & Ohr, *Managing Innovation Portfolios – Strategic Portfolio Management*, 2013)

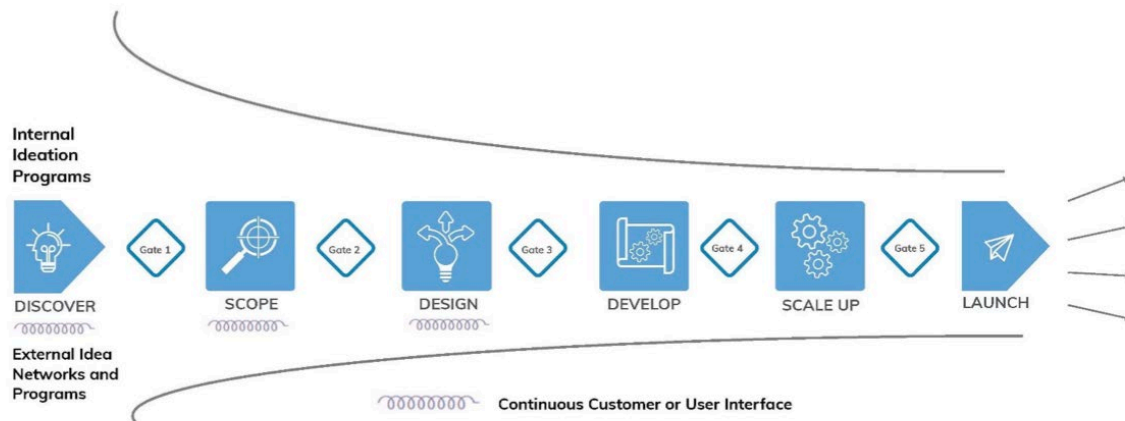
In the end McFarthing and Ohr (2013) state that successful OPM is very difficult without a PMO or PMB, these should provide the portfolio truth based on the firm's metrics and available information. A high clarity and quality in both seem essential to success. This could be achieved by appropriate frequent reports within projects, combined with clear straight to the point reports. Furthermore, the firm should make use of an innovation “calendar” for projects launched and deadlines to be able to prioritize and eventually kill certain projects. This prioritization should ideally be done in project groups, e.g. high/medium/low to lower potential OPM complexity. Anything which is not sourced, should not appear on the list. Otherwise, project illusions could be right around the corner, potentially building false expectations. By integrating project plans with resource availability, the firm is able to ensure that individual skills are perfectly balanced across project requirements.

Another framework called the Stage-Gate Process originating from the new product development (NPD) literature from Cooper (1990) can be identified as a connectable concept to OPM. It goes through a series of steps starting with project conception and leading to product delivery/launch. As shown in figure 4 these steps are grouped into stages, these are controlled by so called gates (decision-points), conditions of these gates are defined. Enabling potential cross-functional teams to evaluate the status of the project/product against the pass/no-pass conditions (Edgett, 2020). This process can be expanded in the development and testing of PPM during the phases believed by Harvey (2005). It should not be limited to NPD projects. The development milestones of a project could be seen as the gates controlled by the project/portfolio managers or team. These persons would use the predetermined criteria to evaluate and compare the available data. This method should avoid the use of territorial protectionism and gut feeling. But an idea-to-launch process does not account for guaranteed success of a project. It must have certain traits to impact successfulness. Edgett (2020) mentions

customer driven focus, upfront activities, tough go/kill decision points, top management involvement and genuine cross-functional teams as the ingredients of process success.

The framework has six different stages and five gates the project has to go through. Starting

*Figure 4 Stage-Gate Model*



*Source: (Edgett, 2020)*

from discovering where uncovered business ideas and opportunities are identified. Followed by defining the scope of the project which would mostly consist out of desk research. Thereafter it passes throughout gate 2 which has a sample scorecard shown in Appendix B towards the design stage. Here a more detailed investigation is started which contains customer, market and technical research eventually leading to a business case (Edgett, 2020). Afterwards, the actual design and development of the project takes place, followed by the scale up stage when the required processes and norms are met. Finalizing with the launch of the project/product. Between all of these stages, unique gates are placed with decision criteria depending on how far the project is in the stage-gate process.

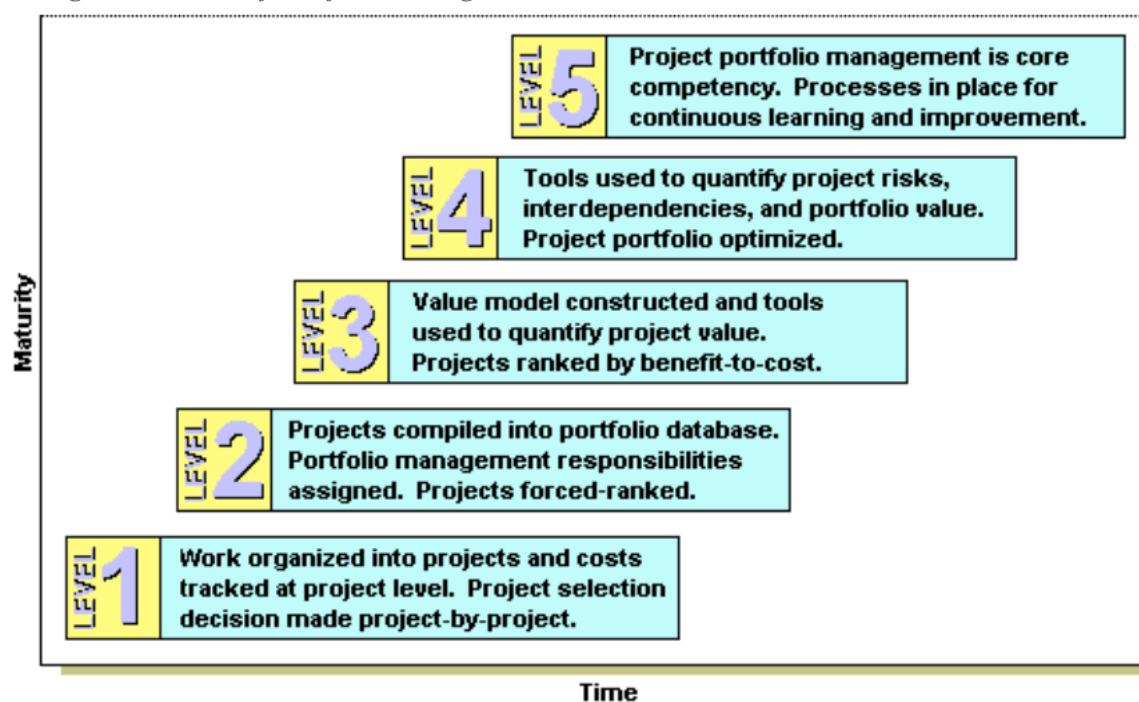
### 2.1.3 Portfolio Management in the Netherlands

The article of Thiadens and Steenbakkens (2010) focusses on 19 different firms in five different sectors in the Netherlands to research how portfolio management is commonly used. They confirm that PPM which was mentioned by Harvey (2005) is the most common form of project portfolio management in the Netherlands. The main reason to start using portfolio management turns out to be the number of projects firms have to deal with. Some organizations even have a business unit to deal with these large amounts of active projects. Therefore, a PPM approach is

used to ensure a clear overview of all the information which is a leading factor in the decision-making process (Thiadens & Steenbakkers, 2010).

The article of Thiadens and Steenbakkers (2010) makes a distinction between 5 different levels how PM information is being used, a brief summary is shown in figure 4. To elaborate on the figure each level is explained below. Level 1 is the central collection of information used to support the organizations ICT. At the second level the information supports the whole organization. On the third level the information is also used manage and provide a controlling factor. In level 4 management and control takes place through a ranking system with provided criteria which can be linked back to the frameworks mentioned in 2.2.2. Lastly, at the fifth stage together with the ranking of the projects, a co-ordination between the projects, IT and business takes place which is followed and evaluated during and after the whole project life span. Showing coherence with the article of Wideman (2004) about the project portfolio life span. Another important insight the article underpins is that less than 50% of the questioned firms use a specifically focused PM tool. Most of the projects are tracked through simple applications such as Excel or Access (Thiadens & Steenbakkers, 2010).

*Figure 5 5 levels of Portfolio Management*



*Source: (Wideman, Project Portfolio Life Span, 2004)*

## 2.1.4 Portfolio Mix & Performance

Although innovation research has been traditionally focused on the tangible product processes, service innovation has become increasingly important and now makes a larger contribution to developed economies (Killen, Hunt, & Kleinschmidt, 2008). Services are normally distinguished from tangible products by the simultaneity of consumption and production of the service and the intangible nature of services. It became clear throughout the research of Killen, Hunt and Kleinschmidt (2008) that

many organizations manage a portfolio which includes a mixture of both tangible products and service products. In addition, the findings of the research by Killen, Hunt and Kleinschmidt (2008) show: that how

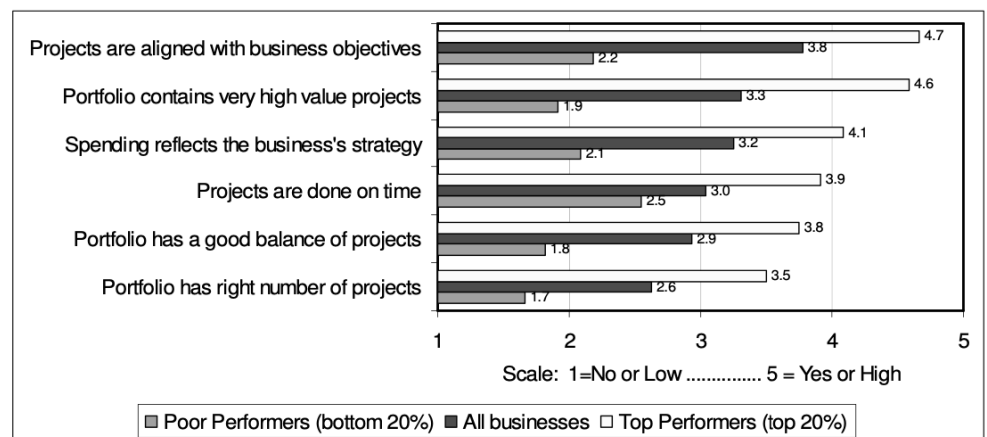
innovation of PPM is performed by businesses does affect their performance.

Furthermore, top PPM performance affects the success rate of new products that are launched by the firms. Shown in figure 6.

This confirms their hypothesis that PPM performance correlates positively to new product success measures. In addition, two hypothesis are strongly supported. Firstly, the use of strategic methods in portfolio management results in better alignment of the projects in the portfolio

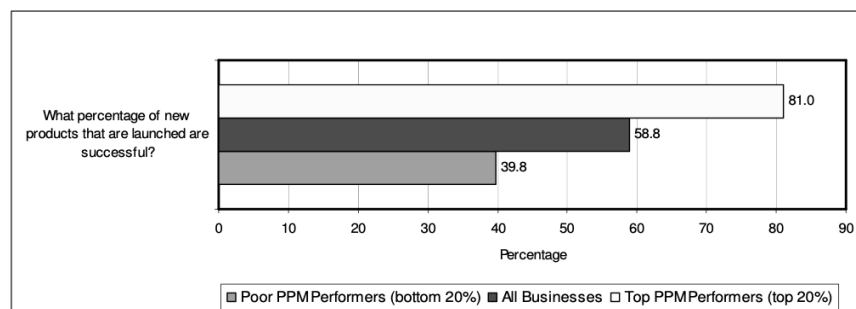
with the business strategy and better with the reflecting strategy. While using portfolio mapping methods is the second supported hypothesis. This could indicate that “best-practice: PPM performance can both be found in tangible and service product environments and organizations are able to learn from each other though looking how these best practice firms perform and innovate (Killen, Hunt, & Kleinschmidt, 2008).

Figure 6 Portfolio performance results on six different metrics



Source: (Killen, Hunt, & Kleinschmidt, 2008)

Figure 7 New product Success Rate



Source: (Killen, Hunt, & Kleinschmidt, 2008)

## 2.2 Small and Medium Enterprises

In 2.2 more details about SMEs in general will be enclosed together with the key concepts about the Dutch service market.

Before researching small and medium enterprises it is important to define the definition and borders surrounding the concept. The European Union (2020) stated in recommendation 2003/361 that these businesses represent 99% of all the businesses in Europe. This also accounts for the Netherlands. There are 2 factors determining whether a firm is an SME. First of all, the staff headcount. Secondly, the turnover or balance sheet total. If one of the criteria is met companies can be categorized in medium-sized, small or micro-sized firm. The actual ceilings to be eligible to call a firm an SME are shown in table 1.

*Table 3 SME Definition*

<b>Company category</b>	<b>Staff headcount</b>	<b>Turnover</b>	<b>or</b>	<b>Balance sheet total</b>
Medium-sized	< 250	≤ € 50 m		≤ € 43 m
Small	< 50	≤ € 10 m		≤ € 10 m
Micro	< 10	≤ € 2 m		≤ € 2 m

*Source: (European Union, 2020)*

Apart from these numbers, another factor has to be met, the independency criterium, the SME is seen as an independent firm when they do not have more than 25% of shares of another firm and vice versa (Verhoeven, Span, & Prince, 2015). Higher percentages indicate partner firms or even linked firms when the percentage is above fifty percent.

Another way of dividing the SMEs in the Netherlands is based on meso level categories.

- Primary Sector (Agriculture & Mining)
- Secondary Sector (Industrials, Energy, Water and Construction)
- Tertiary Sector 1 (Automotive, Wholesale, Retail)
- Tertiary Sector 2 (Financials, Business and other services, ICT, Transport)
- Quaternary sector (Governmental, Healthcare and Education)

Within these sectors further distinction can be made. As mentioned before the firms with an orientation towards the service market are going to be evaluated which belongs to the second

tertiary sector (Verhoeven, Span, & Prince, 2015). The report also discusses a distinction between four types of SMEs in the Netherlands. First of all, the self-employed who do not have any employees under employment and main focus on themselves. With traits such as continuity, traditional, less innovative and most of the time running the business as a sole proprietorship. Secondly, the regular SMEs who do have employees under employment. These can be split into family and non-family run businesses. The main difference between these two forms can be seen in the goal of the firm. While family run businesses focus on continuity, the other prioritizes growth in their strategy. Thirdly, the young SMEs also known as Start-Ups that are max five years in the running. Lastly, the innovative SMEs focused on value creation. These businesses can also be called innovators, most of the time above-average in terms of internationalization and quite capital intensive, often these kind of business can be found in the high or medium tech markets. However, these businesses overlap and do not exclude each other (Verhoeven, Span, & Prince, 2015).

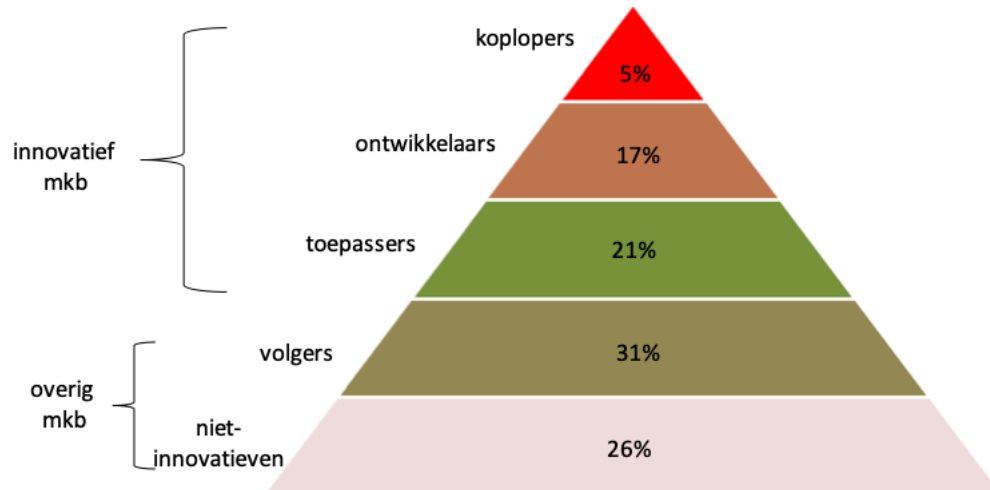
### 2.2.1 Typologies of SMEs in the Netherlands

In the article of Verhoeven et al. (2015) an overview has been made of 10 different typologies of all SMEs in the Netherlands. All SMEs contrast with each other, while at the same time similarities can be found. The perfect scenario would be that each firm would fit in one specific place. However, this is not possible with SMEs. Therefore, typologies have been used. This typology for SMEs is a ranking system of characteristics. Firms can be put in one or more specific place(s).

While all characteristics are very interesting, some do not fit in with the topic of the thesis. Therefore, only a few are going to be discussed in-depth. A clear overview will be shown in Appendix C. The first characteristic is the degree of innovation of SMEs. This is an important factor on both macro and micro level. It is essential to the development and future of the Dutch economy. While, also contributing towards issues such as sustainability, environmental friendliness, exhausting of raw materials and climate change. The report uses the innovation pyramid to segment small and medium firms based upon their degree of innovation. The firms in the top of the pyramid are called the “leaders” who develop their own product and process innovation and explicitly use R&D. The products produced are new for the firm’s market (segment). Secondly. The “developers” have the same characteristics. However, they do explicitly structure through R&D. Thirdly, “Apppliers” who combine own development with elsewhere proved knowledge and methods through external collaborations and networks. The

fourth sector seen as the not-innovative SMEs in the Netherlands are named the “followers” with 31% and non-innovative firms with 26% showing that more than half of the Dutch SMEs do a relatively low amount to none innovative activities.

*Figure 8 Innovation Pyramid Dutch SMEs*



*Source: (Verhoeven, Span, & Prince, 2015)*

The success of these firms is most of the time based upon their growth, in an absolute or relative form. However, this makes it difficult to differentiate classes. Would you measure absolute the larger firms would always perform better, while it is the other way around when looking to it in a relative manner. Here the smaller firms would perform better. The next typology is based upon the firm’s success. While, as discussed above, growth can be an indicator of success it does not provide a guarantee of better results. Based on research by Meijer & Van der Ham Management Consultants (2004) costs exponentially exceed the amounts of revenue growth for two-third of the researched firms. 20% of these firms lost money due to the growth of their firm.

Another important characteristic is the strategy a firm uses. The following often used phrase from Chandler describes the strategy at its best. “Strategy is the determination of basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals” (Chandler, 1962). In most of the typologies the firms are divided based on their goals. In literature two profound models have been identified (Passanen, 2003).

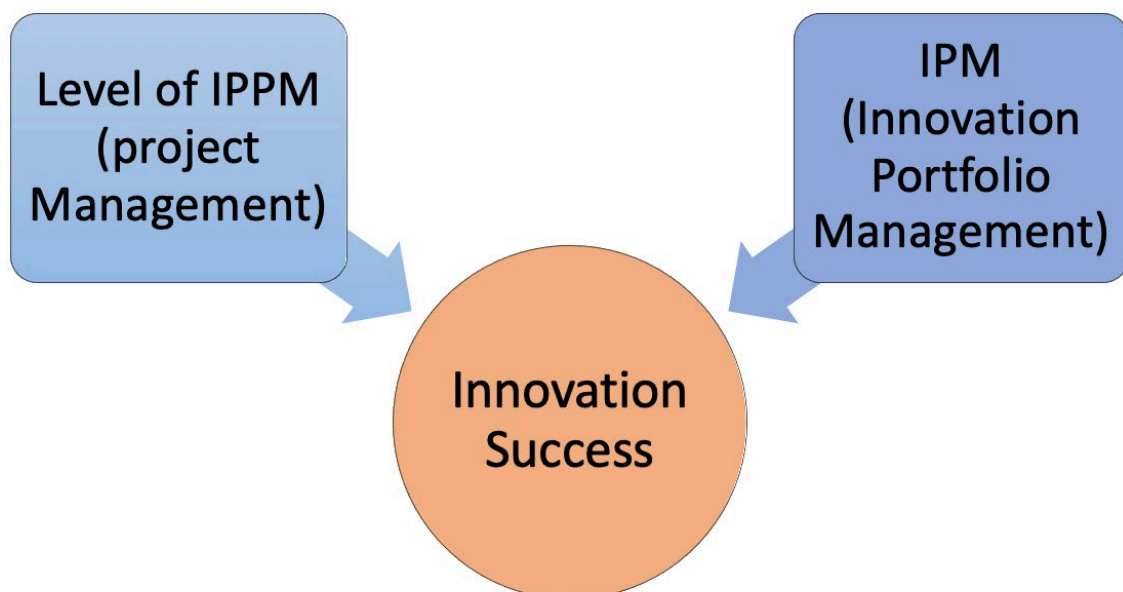
1. *The Business Professional model*, success is being measured through accomplishments such as growth, market share, profits and productivity.
2. *The Small Business Proprietors’ model*, success is based on continuity and welfare.

When combining both approaches the article of Verhoeven et al. (2015) distinguishes three types based upon growth and continuity. First of all, the solo-entrepreneur, who focusses on his own welfare. Secondly, the regular SMEs, such as family-run businesses. Lastly, the innovative firms who are ambitious and potentially challenge market leaders. In the Netherlands the micro and solo-entrepreneurs are the biggest representatives of SMEs with 1.1 million representatives. While the Dutch small and medium firms only have around 52 thousand. (CBS, 2020)

### 2.3 Theoretical framework

To be able to justify the choice of concepts, definitions, types and theoretical perspectives, a theoretical framework has been made. The framework will link the relationships between the concepts. To enable the research to define a precise and focused investigable topic. The theories mentioned above, are combined with the sub research questions and finalized in two categories, level of IPPM and IPM, influencing the Innovation Success, both shown in figure 9.

*Figure 9 Theoretical Framework*



*Source: (Maertzdorf, 2020)*

### 3 Methodology

This chapter includes the methodological choices made to conduct a research in an ethical manner and to be capable to answer the main and sub research questions. This chapter addresses the research strategy, data analysis and the research ethics.

#### 3.1 Research Strategy

As mentioned in the first chapter, this qualitative research focused on the exploration of innovative Project and Portfolio best-practices in Dutch service SMEs. In order to answer the main research question, firstly, desk research has been carried out to retrieve relevant literature and data about portfolio management, innovation of portfolio management, (Dutch) SMEs and the service industry, this is shown in the previous chapter. Additionally, to link this with the practical goal of this research, the strategy was to retrieve data by using in-depth semi-structured interviews. Due to the scope and time limits of a Master Thesis project, nine interviews were possible to be organized. These interviews were held with individuals at SMEs in the Dutch service industry. The chosen individuals are capable of making decisions about the PM of the organization resulting in CEO, CFO, PM manager and/or innovation manager positions which is in line with Vennix (2011).

As this research was not looking to provide objective truths, but to get an insight how the SMEs of the Dutch service industry undertook and managed their IPM. Scientific literature needs to be studied and combined with the experiences and knowledge of the interviewed individuals within the SMEs which needs to be interpreted and connected to IPM. Both portfolio management and innovation within these firms has been measured qualitatively.

#### 3.2 Data Collection

The collection of data took place in a period of approximately six months, from January 2019 until July 2020. As mentioned in the research strategy, two different strategies have been used: semi-structured interviews and gathering of data through desk research. Therefore, two distinct data collection methods have been described in the following sections.

##### 3.2.1 Analysis of Innovation Portfolio Management

Three categories of material can be used to carry out desk research: literature, secondary data and official statistical material (Verschuren & Doorewaard, 2010). The study in this Master

This thesis has used the first two of the above-mentioned methods for the retrieval of literature, such as books, articles and reports and secondary data to achieve credibility. Before the selection of the appropriate data, an overview was made to clarify in which directions certain data needed to be extracted. Criteria for this data was based upon the basic rules for a Master Thesis. The retrieved articles needed to be relevant based on subject and age, while having a certain level of academic contribution. This overview eventually led to the (sub)chapters of chapter 2, including Innovation Portfolio Management which is divided by 4 parts and Small and Medium Enterprises. Based on these (sub) chapters certain articles were used and some eventually deleted due to not being relevant enough.

### 3.2.2 A study within Dutch Service SMEs

To be able to gather more data about the Dutch Service SMEs and how they manage their Innovation Portfolio Management, seven interviews were held. There are several types of interviews possible when doing research, such as structured interviews with closed questions, or unstructured interviews with one overall topic (Sekaran & Bougie, 2013). For this study, semi-structured interviews were used. Semi-open-ended questions were adopted to retrieve rich and explanatory information. Due to the semi-structured approach, there is a structure based on the literature prepared beforehand (see Appendix D), while it provided the opportunity for the participant to explain his meaningful and culturally salient view on the specific topic. In addition, it provided the researcher with the possibility to ask further questions based upon the answers given (Sekaran & Bougie, 2013). As mentioned before, all firms were located and active in the Netherlands and in the service industry which corresponds to Tertiary Sector 2 based on the article of Verhoeven et al. (2015). In addition to these two criteria, the chosen SMEs had some sort of portfolio management within their firm.

In table 4 below the interviews, their position, firm and response on the data are summarized.

*Table 4 Participated Firms*

Number	Month of Interview	Participated firm	Interviewee	Agreed / Complemented Data
1	May	ORGfit	Alain Deckers, Business Manager	Agreed
2	May	Marevisie	Geert van Stuijvenberg, Portfolio manager	Agreed

3	June	Komexo	Ivo Kikken, CEO & Senior Consultant	Agreed
4	June	Navara	Ruben Wybenga, Business Unit Manager	Agreed
5	June	IT Governmental (Alias)	Maartje Broekman (Alias), Project Manager	Agreed when using alias
6	June	Deveho	Erik Holtz, Consultant	Agreed & Complemented data, recommended some changes
7	June	Supply Value	Geerten Peek, Senior Consultant	Agreed

*Source: (Maertzdorf, 2020)*

Each interview started with a short introduction into the main topics and the permission to record the interview and if an alias is needed to be used. This is the case for one firm which has been renamed to IT Governmental. After the introduction, the interviewees have been asked to introduce themselves, describe their job within the firm and their expectations of the interview. Afterwards, a small introduction from the researcher's side is complementary to gain trust and ensure confidentiality with the interviewee. When this bond has been established, the first "warm-up questions about Dutch service SMEs, structuring of the IPM and IPM performance are asked. A funneling technique is used to ensure identification of a broad idea of the situation. These are the easier questions and non-threatening in their point of view. When these questions are answered, the main questions cover the purpose of the interview and entail for the largest part of the necessary information. For these questions a few follow-up questions were prepared when the first answer is unclear or incomplete. When all of the needed information was gathered, the interview was finalized by the interviewer. During the interview it was very important that the questions asked are unbiased to ensure minimum bias in the responses. Furthermore, clarifying issues when they present themselves was another important technique to ensure that the respondent means what he actually said, while the interviewer is able to find clarification (Sekaran & Bougie, 2013). Lastly, when the respondent seemed to be struggling with a certain questions the researcher helped to think thoroughly about these issues to eventually come to the needed information. The preferred way of interviewing was personal or also known as face-to-face interviews, especially due to the advantages it provides.

1. The researcher is able to motivate the respondent
2. Clarify and clear questions and doubt
3. Read nonverbal clues & use visual aids to clarify points
4. Richer data can be derived

The alternative option and chosen method due to Covid-19 was using skype/facetime/zoom or telephone interviews. Although, this method was less costly in terms of time consumption and travelling costs. It was not possible to observe and retrieve important cues which could have been found during a personal interview. Furthermore, during these kind of interviews the respondent held the power to terminate the interview at any time, or be distracted due to a phone call, leaving the researcher with unanswered questions and weak data.

In the end, every participant received a transcript of the interview (Appendix E), including quotes to be able to check the accuracy of the participant's perspectives. This granted them the opportunity to adjust and verify the data retrieved. All interviews were recorded to be able to analyze the data.

After the seven interviews, two additional interviews with experts on the matter of IPM enabled the research to be more theoretical and practically relevant through the ability to discuss and assess the results of the interviews and provide interesting insights into how they would compare these results with theory and practice. Both interviews were recorded and summarized.

*Table 5 Participated IPM Experts*

Number	Date of Interview	Participated firm	Interviewee
1	July	ORGfit	Ronald Janssen, Associate Consultant
2	July	Marevisie	Geert van Stuijvenberg, Portfolio manager

*Source: (Maertzdorf, 2020)*

### 3.3 Data Analysis

The previous chapter described how and which data has been collected. However, using the proper data analysis techniques was equally or even more important. According to Langley and Abdallah (2011): “the key challenge of doing qualitative research on organizational processes lies not so much in collecting these data but in making sense of them to generate a valuable theoretical contribution”. Therefore, the three steps mentioned by Sekaran and Bougie (2013)

were used. Data reduction refers to the process of selecting, coding and categorizing all of the interviews. Meaning all interviews have a transcript which has been analyzed through a codebook involving open, axial and selective coding which is shown in Appendix F. Secondly, data display referred to the presentation of the data, for example using a selection of quotes. Helping the researcher to draw preliminary conclusions. Thirdly, conclusions have been drawn based upon the gathered and analyzed data. Here the research questions have been answered by determining what identified themes stand for, by thinking about explanations for observed patterns, relationships or by making contrasts and comparisons.

### 3.4 Operationalization

#### **Dutch Service SMEs**

In this research organizations have been categorized based upon the SME definition from the European Union (2020), the organizations have to have less than 250 employees. In addition, the firms are active in a service industry while actively using IPM in their organization.

#### **IPM Structuralization**

The structuralization of the IPM is operationalized through five constructs which all include semi-structured questions shown in appendix D:

1. IPM General questions.
2. The portfolio mix. Strategically or operationally focused projects.
3. The usage of IPM frameworks such as the stage-gate model and the balanced scorecard.
4. The deliberate or emergent structuralization of IPM within the organization.
5. The level of IPM in the organizations

#### **IPM Performance**

The IPM performance was focused on two main questions and several (sub)questions which target the effects of IPM on an organization and the added-value it aimed to provide.

- What effect has the introduction of IPM had on the organization?
- What is the added-value of IPM for the firm?

### 3.5 Research ethics

This section of the chapter is going to deal with the topic of research ethics. The desk and field research led to the retrieval of data from different sources. Therefore, proper citations and a

fully enclosed list of references has been added to the Master thesis. To ensure that the added literature and data was used in an appropriate manner. In addition, in the previous chapter, 3.3 the data analysis, a clear explanation about how the data has been collected, was added.

This summary and transcription have been sent to the interviewee for a members check. Furthermore, the participants have been asked if they wanted to stay anonymous or if their full name could be included in the Master Thesis. One firm preferred to stay anonymous and a substitute name has been made up. Finally, all of these ethical aspects should enable a sincere, transparent and responsible study.

## 4 Results

Through the process of using open, axial and selective codes data has been collected from seven participating SMEs. First of all, a short introduction (including some general findings from the interviews) of each firm will be given in 4.1 to briefly give an insight into the organization. All have been interviewed based on the (sub)chapters of the theoretical framework to identify their way of using Innovation Portfolio Management. Afterwards, the results will be discussed in the same order in 4.2. New emerging concepts which differentiate from the original structure are also included. Thirdly, the gathered information has been (separately) discussed together with two professionals. These results are included in 4.3 and provide an unbiased and experienced opinion about the retrieved results which provide interesting insights. Fourthly, a summarized scheme has been included in 4.4 (table 7) which shows an overview of all the results of the interviews and prepares the reader for the upcoming conclusions.

### 4.1 Firms Interviewed

An overview of all seven interviewed firms is shown on the next page (table 6). This table is structured based on the order of the interviews and presents the characteristics of each firm. First, the firm size indicates that every firm except IT Governmental can be seen as a small firm based on European Union (2020). Furthermore, the firms' hierarchical structure and the layout type of consultancy show that there is a distinction between the organizations interviewed. Most of the organization mentioned to be a very flat organization which includes 0 to 1 layers. While two other organizations mentioned to have a more hierarchical structure including around 2 to 4 layers. In addition, the type of consultancy did not differ in terms of IPM-practices.

The overview also incorporates the innovation pyramid from the article of Verhoeven et al. (2015) which has been explained in chapter 2, all firms were either an applier or a developer. Additionally, it showed that most firms focus on growth rather than continuity. The last column shows the core business of each firm to give a brief insight on what the firm does.

Table 6 Overview of Interviewed Firms

Number	Participated firm	Firm Size	Firm Hierarchical Structure	Layout type of Consultancy	Type of business (Innovation Pyramid)	Focus	Core Business
1	ORGfit	30 fte.	Flat	Strategy	Applier	Growth	Focus on strategy & process management
2	Marevisie	18 fte.	Flat (freelancers)	Strategy	Applier	Growth	Designing and implementation of Project and Portfolio Management
3	Komexo	20 fte.	Flat	Software	Developer	Continuity	Automatization of SMEs through ERP-Systems
4	Navara	40 fte.	Hierarchical	Software	Developer	Growth	Merging business with IT solutions to make impact
5	IT Governmental	165 fte.	Hierarchical	Software	Developer	Growth	Software services focused on governmental institutions
6	Deveho	8 fte.	Flat	Software	Developer	Growth	Selling and implementation of ERP-system focused on multinationals
7	Supply Value	44 fte.	Flat	Strategy	Applier	Growth	Providing guidance in strategy-making with the focus on implementation of firm's strategy

Source: (Maertzdorf, 2020)

## 4.2 Results

In total 1015 sections across seven interviews have been analyzed. In the end, a total of 222 quotes have been collected throughout the usage of open, axial and selective coding. Three overarching themes were identified within these codes: organizational, IPM process and IPM outcomes. These themes have been used as a guidance to develop the following results sections. During the analysis of the transcripts there was some confusion due to the fact that there was a mixture between customer order projects which include Engineer to Order (EtO), Configure to Order (CtO) and Innovate to Order (ItO) and the firm's own innovation projects within the portfolio. While the exact meaning of IPM only addresses these innovation projects in the firm's portfolio. It was unavoidable to not take the customer order projects into account as well. Mainly, due to the fact that there is a correlation with IPM and that most of the firm's projects were customer-oriented. But, also because, there are parts of ItO projects that can be included in the innovation portfolio. In addition to the fact that EtO, CtO and ItO could lead to actual innovation projects within the firms. So, when reading external or customer focused projects, keep in mind that ItO projects are partly present in the Innovation Portfolio and that all three forms can lead to the substantial innovation projects for the firm which are central in IPM best-practices.

### 4.2.1 Innovation Portfolio Management

In 2.1.1 Portfolio Management, the project life span based on Harvey (2005) has been discussed extensively. While there were no specific questions in the interview guide on this matter, multiple interviewees mentioned how their project lifecycle looked like which can be seen as an alternative way of interpreting the framework of Harvey (2005). Most of the firms indicated that the main source of projects came from external ideas, opportunities or needs. Interviewees 1,2,3,5 and 6 mentioned that most of their projects are customer-based and market-driven which indicates that 5/7 of the respondents mainly rely on customer order projects. In this case, based on the transcripts most of the projects are EtO, CtO and only a few are actual ItO which belong within the innovation portfolio. Only a few cases discussed during the interviews could be identified as actual innovation projects which were not primarily focused on customers. This can be recognized in the quote from Maartje Broekman:

*“So, you have the projects where we develop something based on the wishes of the clients, but you also have some internal projects where we look how we can innovate and improve ourselves as a firm”*

This quote can be used to identify that most of the firm's projects are customer-oriented and involve the proposed EtO, CtO or even ItO, while some could be categorized as innovation projects belonging in the innovation portfolio of the firm based on the definition of IPM.

Looking back on the model from Harvey (2005), an alternative project life framework has been provided by Komexo, which is added in appendix G. It shows similarities with both models mentioned above and the Stage-Gate model (Edgett, 2020). In this model a step-wise plan would be followed to eventually execute a project. The model starts by quick scanning to define wants and needs of the project. Followed by an internal and external kick-off and the core model which could be seen as a blueprint for the designated project and could be referred as the business planning selection part in the framework from Harvey (2005). Afterwards, a Conference Room Pilot (CRP) would be used to present the blueprint and show the project scope and gap analysis. The next step would be a roll-out where the project is prepared for the key users. Together these two phases could be referred as the concept phase which involves the selection filters. Eventually, test & training would check the outputs of the project before going live, showing a relation with execution of approved projects.

Another framework which has been discussed in the literature review is the Balanced Scorecard Approach. From all the seven interviewees only two firms, ORGfit and Komexo mentioned to use this approach. However, ORGfit did not incorporate it in their own IPM, but would implement it as a part of their services for customers. While Komexo used the Balanced Scorecard Approach to guide a presentation about their innovative projects to be able to get WBSO subsidized.

#### *4.2.1.1 Strategic IPM*

During the interviews four strategic focused questions have been answered. These results are shown below in a structured manner.

Strategically, McFarthing and Ohr (2013) mentioned that the best way to guide IPM was through the usage of a project management office (PMO) or a portfolio management board (PMB) with a supportive senior management in the organization. Respondent 1, ORGfit indicated that their firm does not have such a decision-making board due to the fact that there is no real hierarchy within the organization, consultants within the firm have a high degree of responsibility. The other 6 firms, all mentioned that there is no specific PMO or PMB, but that the senior management team provides the overarching view and control of the internal and external projects. This can be translated to the same functions as what a PMO or PMB does.

So, in the case of SMEs, the CEO, senior management or even specialists could function as a PMO or PMB without specifically being identified as such.

On the next question: Who decides if projects are continued or not? Is there a PMO? Respondent 7, Geerten Peek, answered:

*“Not really, we have a MT, consisting out of 4 men. Our managing director and 3 business unit managers. One has a PMO role, the other a management role and the last focusses on the financials.”*

It seems that within SMEs the mentioned supportive senior management could also be seen as the portfolio management board. Whereas, in some of the organization they are actively involved in all the projects. However, another factor should not be forgotten based on what Maartje Broekman from IT Governmental mentioned: *“But I think, that it depends of the impact on the firm, internally we’re busy with the customer support which is something, we’re all responsible for!”*

Implying that depending on the project impact on the firm, employees get higher degrees of freedom in their decision-making process for projects.

While it was made clear that both the Stage-Gate model from Cooper (1990) and the Balanced Scorecard approach from Devine et al. (2010) are not used in IPM-practices by all firms, alternative methods were discussed. The main finding from these alternative methods was that the Agile method called Scrum was used by six out of seven firms. The firms varied between sprints of two to four weeks between projects. Only respondent 2, Marevisie, mentioned to not use any models or approaches in their strategy making process.

The next strategic subject was if the strategy behind the IPM process could be defined as an emergent or deliberate process. Four out of seven respondents mentioned that their strategy can be identified as a deliberate process as respondent 7, Geerten Peek confirmed for their firm:

*“Yes, it is deliberate, it’s a conscious choice how we manage our process.”*

The other three firms mentioned that the strategy is mostly based on the market and customer demands as it is their main input for projects which can be identified as customer order projects. They also state that relying on a deliberate framework would clash with their interest of staying flexible to be able to adjust to the external needs, wants and opportunities.

Lastly, a clear preference for a short-term oriented horizon has been confirmed by almost all interviewed firms. Only two firms indicated that there was a mix between short and long-term focus. All others said that short-term is the main way they propose their projects which corresponds to the mostly used Scrum method involving sprints of two to four weeks. Two exemplary quotes were given by Alain Deckers from ORGfit:

*“I think it is a mix, there are a few where we decided to focus on the longer term. However, most of our projects, are meant to answer the now question and the developments we’re currently going through.”*

Showing that the gross of the projects is short-term oriented. In addition, he also mentioned that the already mentioned alternative method of Agile: Scrum enables the firm to build a strong base to cope with external influences.

*“We’re an organization which has to act on the rapid development of the market in one way or another. Work methods such as Scrum provide the opportunity to do it.”*

#### *4.2.1.2 Operational IPM*

Six operational focused questions have been asked during the interviews. The questions are based on the theoretical implications from McFarthing and Ohr (2013) who imply that there are some key aspects within OPM.

First of all, an overview was given by the interviewees how they see the operational portfolio management of their firm. All respondents answered differently, but the most important inputs which were mentioned correspond to the above-mentioned Scrum way of working together with the external customer focused strategy of the firms. All firms mention in one way or another that the projects depend on how heavy the impact is on the firm and that external projects have the higher impacts due to higher outcomes for the firm. Two firms also mentioned that the matching of the right employees with the right sorts of projects is essential to the eventual outcome of these projects.

Secondly, a more in-depth questions was asked based on the phases of OPM Implementation which is shown in table 2. All firms mentioned to not have a similar phases in the OPM implementation of the firm. However, two firms mentioned to use GIRA, which is a helpdesk tool to track all the developments within projects and eventually share them between each other. While two other respondents make use of simple excel sheets to track developments of the projects. But six out the seven firms mentioned that the Scrum method also provides a red line to follow regarding their projects providing them with guidance. The next subject was focused on the prioritization of certain projects with a follow-up question based on the theory by McFarthing and Ohr (2013) which indicated that the best way of implementing a prioritization system should be done ideally through project groups e.g. high/medium/low priority to lower OPM complexity. Four of the seven firms indicated that their prioritization is based on customer demands and the outcome potential of the project. An example was given by Alain Deckers:

*“Yes, it’s mainly outcome-based I think, it really depends on the potential yields of the project.”*

The three other firms mention that there is no real prioritization between the projects due to the fact that there is a project-per-project work strategy. In addition, only one firm, Deveho, acknowledges the use of project group prioritization in the form of numbering their projects, one to four, depending on importance which is shown in the quote below.

*“Yes, yes, yes, there is a ranking from 1,2,3 and 4 which combines priorities and wishes”*

Furthermore, four firms mentioned that the budget for these projects were mostly decided on the go or based upon the hours worked on specific projects together with additional fixed and variable costs. The three other firms who already indicated that the senior management focused on the decision-making process also confirmed that budgets for the IPM within the organization were decided in the same way. Furthermore, the approximate number of projects within the organization has been identified. Five out of the seven firms mentioned to have multiple projects internally and externally, indicating that consultants within the firm have to deal with multiple projects during the Scrum cycles which include customer order projects as well as the innovation projects of the firm. The two other firms mentioned that every employee has its own project, providing a lower level of complexity within their IPM decision-making and prioritization.

Lastly, the manner of reporting for projects within the firm has been asked. Here all of the firms differentiated but also kept the same structure somehow. Every firm mentioned that there were monthly meetings or even weekly meetings depending on the importance of the project. Higher priorities lead to more frequent meetings and discussions. However, the way of reporting is unique for each firm. While the most focus solely on a combination between the usage of Microsoft PowerPoint, Planner or Excel others use alternative methods such as SAGE CX3, the already mentioned GIRA-method and a so-called traffic light structure proposed by Marevisie. A quote from Geert van Stuijvenberg explains in which way the tool is used:

*“We make use of a tool with a traffic light structure. This involves the planning, budget and scope of project. When one of the three is labeled with a “red light”, we know there is still things that have to happen.”*

In addition, he mentioned that here is a coherence between the three factors, all three need to be in balance to eventually get a good outcome of a certain project. This manner provides guidance for when problems arise during projects. The template of the tool has been added in Appendix H.

#### 4.2.2 PM in the Netherlands

Based on the article of Thiadens and Steenbakkens (2010) 5 different levels of portfolio management exist in Dutch firms. During the interview's the participants were asked in which category they would place their firm. A significant result of six out of the seven firms immediately recognized themselves with level one of five levels of Portfolio Management which means that they recognize their work as organized into projects and costs are tracked at project level. Project selection and decision making is made project-by-project. One of the mentioned that high levels of structure could be beneficial, but focusing too hard on structuring the IPM could lead to "cutting their own wrists". Furthermore, as mentioned by Geerten Peek from Supply Value:

*"For us, it is a level 1 without a doubt. And when you're looking to our customers, the bigger organizations often float between level 2 or 3 even tend towards a level 4."*

Indicating that there could be differences based upon the size of the organization.

#### 4.2.3 Portfolio Mix & Performance

Lastly, the results of the Portfolio mix & Performance questions focused on three aspects: IPM benefits, difficulties, influential factors and the added-value. The first thing which immediately was noticeable was that six out of seven consultancies answered in the same direction based on the added-value of IPM in their organizations. They all mentioned that it provides a certain way of structure and strategy for the firm. Especially, when looking at the senior management team. This structuralization differentiated between focus on the internal structure, overview, measurements, habits and guidelines for projects. To give an example of these different indications of structuralization, Respondent 4, Navara said:

*"Well, the added-value is that it provides certain fixed habits and guidelines which can be implemented for each new project. You're able to re-check it while you'll have structure and trust to implement quality insurance. However, you always need to stay innovative and look for new opportunities!"*

But in the end, they all provide a certain way of structure on how the firm works. The 1/7 firm said that it also promotes knowledge & experience sharing which could be linked to the above-mentioned quote implying that previous knowledge and experiences can be used to promote structure in the organization.

When looking towards the benefits and difficulties multiple suggestions were made by the participating firms. Potential problems which were mentioned mainly focused on standardization, strategy-making and decision-making.

Lastly, the influential factors correlated around the motivation and enthusiasm of the workforce. 3 firms specifically mentioned this motivator as a core competency behind good performance.

### 4.3 Expert Opinions

After the interviews two experts were asked to have two separate discussions about the results and if there are particular parts which seem to be generalizable for the Dutch SMEs and consultancy firms. The same structure as the interviews has been used to identify these opinions. First of all, both experts did confirm that SMEs mainly operate in an informal manner. Expert 1, Ronald Janssen, explained that formalization of the internal structure in these kind of firms are quite difficult, especially, when you would want to use a stage-gate model or introduce a PMB. The main cause is that in these smaller firms you often deal with the owner of entrepreneur behind the business who often does not like these strict ways of working as it would be too time-consuming. Secondly, both experts agreed that the Agile: Scrum is common method which is being used in the SMEs domain. Expert 2, Geert van Stuijvenberg added that: *“Mainly smaller firms who have several projects implement Scrum”*

However, Expert 1, suggests that more research could be needed in this direction because SCRUM has multiple principles, and firms do implement these principles in the different manners. He argues that real Scrum would be too time-costly for SMEs.

Furthermore, both experts expressed that the indication that consultancies are mainly outcome-driven seems to be true. Mainly, due the fact that there is an obligation to deliver. While, smaller firms have higher urgencies to keep their clients satisfied to stay financially healthy. The short-term focused projects are more attractive to maintain this status according to Geert van Stuijvenberg, as there are shorter horizons. Ronald Janssen, also added that the mentioned ROI from the 3 horizons model shown in table 1, chapter 2, seems to be difficult. As the ROI is not specifically relatable to each project, experiences and knowledge gained from one project could be used to implement in other project. He used this to provide an example that in this business growth is built on already existent propositions based on the recent market developments.

Operationally, both experts agree that there is no one specific structure how SMEs deal with their projects. Ronald Janssen argued that Agile could be linked as the underlying way of working of almost all interviewed firms. Furthermore, Geert van Stuijvenberg mentioned that the phases shown in table 2 (chapter 2) in practice are limited to mostly two or three phases

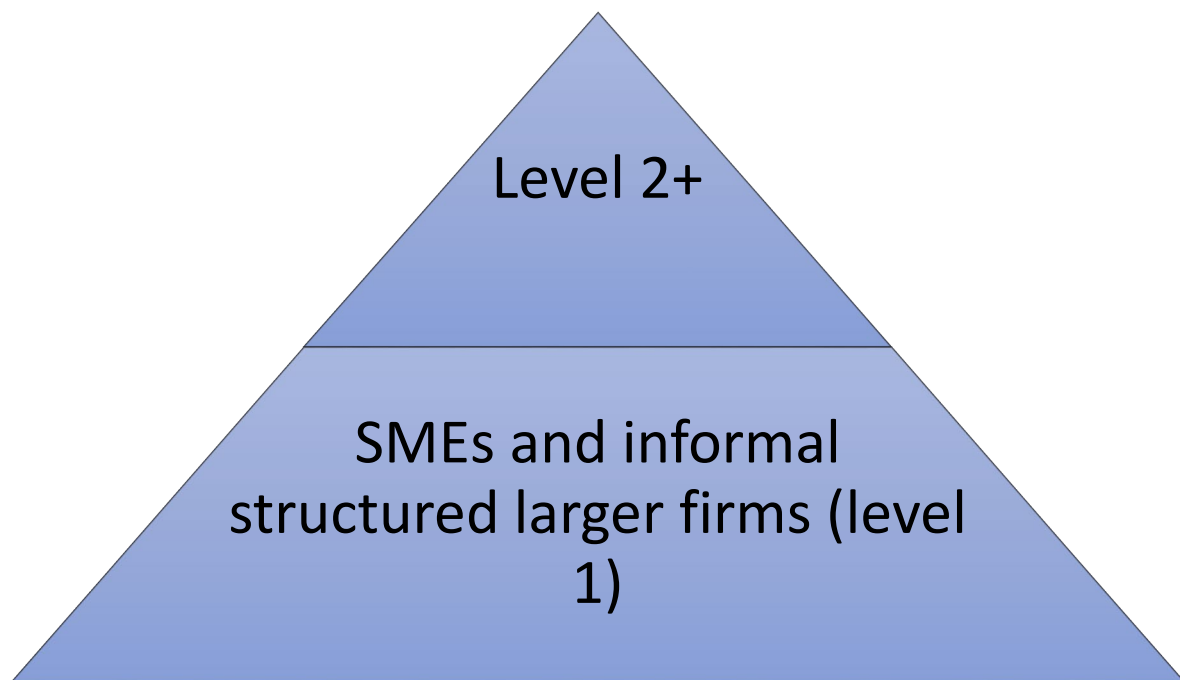
depending on the scope of the projects. Ronald Janssen added as smaller firms grows, the need of structure grows as well which also counts for their projects. The project prioritization concept is confirmed by both experts to not have been formalized within the consultancy branch, the only prioritization which is mentionable in their eyes, is that customer-driven projects get prioritized above internal-oriented projects.

On the matter that most interviewed firms do have a very flat hierarchical structure, Expert 1 said that this is common based on his experiences in certain branches of the SME market. He also confirmed that this could mean that in these firms the decision-making for projects depends on the level of impact a certain project has.

Both experts agreed that the way of reporting within firms depends on the information flows within the firm. They also mentioned that there is not a specific generalizable results as it depends on the branches and products the firms are in. For example, if the firm operates in a very formalized branch, reporting and meetings would be done on a higher frequency than informal branches. In addition, Geert van Stuijvenberg, mentioned programs such as GIRA and TRELLO could be used to document these information flows.

Afterwards, both experts acknowledged the findings based on the 5 levels of Portfolio Management in the Netherlands from Thiadens and Steenbakkens (2010). As six out of seven firms said to operate on a level 1, the experts mentioned that this could be generalizable, in their experience even the bigger firms which do not fit in the descriptions of SMEs still operate on a level 1 or 2. Ronald Janssen explained that bigger formal firms such as banks and governments could be higher levels which correlates with the findings of Thiadens and Steenbakkens (2010). In practice the conclusion could be seen as that level 1 to 5 could be illustrated as a pyramid, where the largest part of the firms is level 1 and only a limited number of firms is level 2 or higher which is shown in figure 10.

Figure 10 Levels of Portfolio Management in the Netherlands.



Source: (Maertzdorf, 2020)

Lastly, both experts agreed that there is a high level of motivation to change, innovate and finishing projects in the consultancy branch. Most of the consultants of these firms are dedicated to these project outcomes. In addition, they confirmed that the underlying essence of IPM within the SMEs could be generalized as the providence of structure. As is arranges that the firm's energy is focused into the right directions.

#### 4.4 Summarization of Results

To provide an overview of the above-mentioned results a summarization scheme has been included below. It provides a summary of the main findings of the interviews.

Table 7 Summarization scheme

Topic of Theoretical Framework	Findings
<b>Innovation Portfolio Management</b>	<ul style="list-style-type: none"> <li>• Informal structures are the most common in SMEs.</li> <li>• 5/7 of the interviewed firms relied on external inputs for their projects.</li> <li>• Customer order projects can be divided in EtO, CtO and ItO. Only ItO belongs in the Innovation Portfolio.</li> <li>• EtO, CtO and ItO can lead to actual innovation projects within the firm.</li> </ul>

	<ul style="list-style-type: none"> <li>• All firms mainly focus on customer order projects, innovation projects are less frequent and focused upon.</li> <li>• The Project Life Span Framework has not been used; alternatives are present. Such as shown in Appendix G.</li> <li>• 2/7 firms used the Balanced Scorecard for customer-oriented projects</li> </ul>
<b>Innovation Portfolio Management:</b> <i>Strategic Portfolio Management</i>	<ul style="list-style-type: none"> <li>• 7/7 do not have PMB or PMO. However, in 6/7 this role is fulfilled by the senior management who controls the decision-making.</li> <li>• The impact of a specific project on the firm, could change the degrees of freedom regarding the decision-making.</li> <li>• 6/7 firms used Agile: Scrum to strategize their projects which enables them to react rapidly.</li> <li>• The Stage-gate model is not used by all respondents; however, alternatives provide similar structures.</li> <li>• 4/7 firms indicated that their IPM process is more deliberate than emergent. The other three said deliberate strategies would clash with the interests of staying flexible.</li> <li>• All firms mentioned to be short-term oriented. While only two said to have a mix including long-term horizons as well.</li> </ul>
<b>Innovation Portfolio Management:</b> <i>Operational Portfolio Management</i>	<ul style="list-style-type: none"> <li>• Scrum could be linked to the operational sides of IPM within the firms. 6/7 mentioned that Scrum provides a guidance for their projects.</li> <li>• All firms did not follow the phases of OPM implementation (table 2). However, expert 2 suggests these steps are used in a less formal manner.</li> <li>• Tools such as GIRA, TRELLO, EXCEL and other dashboards are common to track information across projects within the firm.</li> <li>• 4/7 prioritize based on outcomes, three others do not prioritize between projects. The two experts confirm that real prioritization between projects has not been formalized.</li> <li>• Only Deveho uses a ranking scale for their projects.</li> <li>• 3/7 leave budget decision-making to the senior management, the other four have budgets based on hours spend.</li> <li>• Reporting is based on the Scrum cycles and differs between all firms.</li> </ul>

<b>PM in the Netherlands</b>	<ul style="list-style-type: none"> <li>• 6/7 firms operate on a level 1 out of 5 based on the levels of PM in the Netherlands.</li> <li>• Even most larger firms could still operate on a level 1 based on Expert 1 &amp; 2.</li> </ul>
<b>Portfolio Mix &amp; Performance</b>	<ul style="list-style-type: none"> <li>• Providence of structure is seen as the added-value of IPM</li> <li>• Motivation &amp; obligation to deliver seem to positively influence performance</li> </ul>

*Source: (Maertzdorf, 2020)*

## 5 Conclusion

Based on the results discussed in the previous chapter, this chapter provides the final answers to the central research question: *How do Dutch SMEs in the service sector structure their Innovation Portfolio Management?* To do this the following related sub-research questions will be answered in this chapter.

- *What is theoretically known about good IPM-practices in the service industry? \**
- *To what extent are these IPM-practices applicable in and/or applied by SMEs, and what are different/additional IPM-practices?*
- *To what extent do Dutch Service SMEs structure their portfolio? Additionally, what is the added-value?*
- *How does Innovation Portfolio Management look like for Dutch Service SMEs? Emergent or deliberate?*
- *On what level of IPM do Dutch service SMEs operate?*

\* Sub-research question 1 is already answered in chapter two and focuses on the already known theory behind IPM which is used as the foundation of the research.

### 5.1 Applicable IPM practices within Dutch SMEs

It can be concluded that the IPM-practices which were mentioned in chapter 2 are somehow applicable, four main theories have been discussed. Firstly, the project life cycle theory of Harvey (2005), shows resemblance with the answers of the respondents. However, they do not put it into practice as the theory suggests. Alternative methods are being used by each individual firm. Secondly, the Balanced Scorecard approach is not used for the SMEs own internal IPM practices. Two firms do implement it when innovating customer-based projects. Thirdly, the stage-gate model is not used at all. As all firms mention that the stage-gate model would be too formal and too time-consuming in their informal organization. However, the firm Komexo provided a model which they used to structure their projects (appendix G) showing resemblance as it also implies multiple stages which have to be finished before continuing to another. In table 7, the summarization scheme, the alternative method Agile: Scrum has been mentioned a lot. Lastly, the theories about strategic and operational portfolio management from McFarthing and Ohr (2013) correspond the respondents results, as all firms do imply to strategically and operationally structure their portfolio of projects in a certain way. The Agile method: Scrum

seems to be generally the most used method by all the SMEs, this is also confirmed by the two experts.

## 5.2 Dutch Service SMEs IPM portfolio and the added value

Two different sections can be used to summarize how the Dutch Service SMEs structure their portfolio. The strategic and operational sides.

Strategically, all firms do not perfectly follow the guidance of McFarthing and Ohr (2013) as they differentiate on multiple aspects. First of all, all firms do not use a Project Management Office (PMO) or a Portfolio Management Board (PMB) which would be the best way to guide their IPM. However, this can be doubtful as 6/7 did mention that the senior management provides this overarching role. Secondly, in terms of portfolio balance, all firms cited that there is a short-term orientation within the firm, mainly due to the fact that smaller firms have higher urgencies to deliver and keep clients satisfied to stay financially healthy. According to the two experts, short-term oriented projects have a higher chance to provide certainty due to faster pay-off potential. While only 2 firms use the proposed method by McFarthing and Ohr (2013) to have a mixture between long- and short-term horizons. The previous mentioned Agile method: Scrum fits perfectly in this short-term oriented strategy.

Operationally, all respondent firms did not use the phases of OPM implementation shown in table 2. The experts confirmed as these would be very formalized steps in an informal group of firms. These steps would in practice be limited to only two or three actions. Furthermore, additional tools such as GIRA and TRELLO were mentioned to track how their projects within their portfolio were doing. While there are also firm-build dashboards which are used to evaluate how the projects is going as well (Appendix H). The proposed best-way of prioritization with ranking scale is only used by Deveho. While the others prioritize based on outcomes or do not even prioritize between projects. Moreover, as all firms did mention to not have a PMB the decision-making process about budgets and projects is done 3/7 by the Senior Management, while the other have higher degrees of freedom depending on the impact of the firm. Additionally, the reporting within the IPM of the organization is based on the Scrum cycles. In the end, 6/7 firms confirmed that the added-value of IPM provides structure for their organization. Mainly, through the usage Agile: Scrum which can be concluded as the overall strategy both strategically and operationally for service SMEs in the Netherlands.

### 5.3 Emergent or Deliberate IPM

The IPM is divided between both a deliberate and an emergent focus. As four out of seven firms mentioned that these IPM processes are deliberately focused where they as a firm consciously make choices, while the other three focused on an emergent focus which used market and customer demands as their main input for projects in their portfolio relating back to the customer order projects. A deliberate focus would clash with their interest of flexibility to be able to respond to external needs, wants and opportunities. However, as five out of seven interviewed firms previously said to rely on external inputs for their customer order projects, more than three firms could have emergent strategies inside their firm while they answered to mainly be deliberately focused. This suggests that an emergent focus as a firm could be correlated with the more externally focused customer order projects which has not been researched during this study.

### 5.4 Dutch Service SMEs IPM Level

Six out of seven firms within the Dutch service SMEs operate on a level 1 from the theory of Thiadens and Steenbakkens (2010). These six firms indicated that higher levels would not be profitable for the organization. The other organization mentioned to be on a level 3 structure which would be exceptional as both experts said otherwise. Furthermore, the two experts of the matter explained that they even encounter larger firms who do not specify as an SME would still operate on a level 1 or 2 based on the criteria. Formal structured firms such as banks or governments would end up being level two or higher. Figure 10 illustrates the generalization of the fact that almost all SMEs would operate at a level 1, while an exclusive number of firms would formalize their procedures and IPM more which would be classified as a level 2 structure or higher.

### 5.5 Reflection on combined answers of research questions

The combined answers of the (sub) research questions lead to the overall conclusion that IPM within Dutch Service SMEs in the consultancy branch is mostly a low leveled informal structure which can be divided in strategic and operational structures. These are present in every firm some way or another. However, there are big differences and some similarities between the firms and what the theory suggested. As indicated before, both deliberate and emergent strategies seem to be present within this type of SMEs while most of the firms uses external sources to define their portfolio. Furthermore, alternative methods were discovered. The most

common that has been recognized is called Agile: SCRUM and can be seen as the main method being used by all firms to structure their predominant short-term oriented portfolio.

In the end, there are still undiscovered underlying dimensions and structures within the topic of IPM in Dutch Service SME Industry that are yet to be discovered. Implying that the typical phenomenon of an iceberg, can be used. A visible portion is above water while most of it hidden below.

## 6 Discussion

In this final chapter, the theoretical as well as the practical contributions will be included. Furthermore, the limitations of this research will be addressed, these should be kept close to mind to be able to assess the quality and relevance of the study. Then, suggestions for further research have been added. Lastly, a reflection of the research process is given.

### 6.1 Theoretical contribution

As mentioned in chapter 1, the management process of IPM in SMEs seemed to be under-researched (Meifort, 2015). However, PM success factors had been researched extensively. This research adds value by exploring this management process within Dutch Service SMEs, identifying how these types of firms in a specific branch perform and structure their Innovation Portfolio Management. Therewith, filling lacking parts of the proposed gaps of IPM knowledge in this sector. Especially, by both exploring strategic and operational management processes while keeping the firm's characteristics in mind. Furthermore, the study contributes to the theory of Thiadens and Steenbakkens (2010) who described how the PM in the Netherlands looked like. The two experts, agreed with the results and complemented to this theory by concluding that most would qualify as a level 1 firm and only a limited number of firms would be level 2 or higher which is shown in figure 10.

### 6.2 Practical contribution

Practically, four contributions can be identified. First of all, the generalization of how firms perform their IPM can be used by other firms and researchers to recognize their IPM process and how the main ways of strategic and operational structuralization looks like in these firms. Secondly, as mentioned in chapter 1, the results could also be used to educate managers why Dutch Service SMEs operate on a certain IPM level which could help to structure their own IPM. Thirdly, as this study concluded that most Dutch SMEs operate on an IPM level 1. This should be kept in mind when looking at the growth factors of these organizations. Furthermore, it shows the focus on flexibility within this sector which should be seen as an advantage compared to the larger rigid firms.

Fourthly, as the study is performed in English, it can be used as a starting point for further research into IPM within SMEs. While, it also promotes an international accessible discussion about how SMEs perform Innovation Portfolio Management.

### 6.3 Limitations

The study has five limitations to be elaborated upon.

First of all, the scope of the research was rather limited, as it mainly explored the major principles of IPM on SMEs in the Netherlands. The limited timespan of the Master Thesis complemented this limitation. A longer time period would result in a larger scope which could have been used to address multiple branches or even compare them with their bigger counterparts.

Secondly, this study has been carried out by an individual researcher, with feedback from both supervisors and feedback on the results from two experts on the matter. However, there still was a risk that issues such as tunnel-visions, single-minded and incomplete ideas would limit the study. A larger study involving multiple researchers could have led to more “rich” results which involves a larger potential to avoid risks and issues. This could also be referred to the way of interviews which have been done, multiple researchers within one interview would lead to a different style of interviewing.

Thirdly, the research only used Dutch based SMEs, ignoring the potential of the continuously growing internationalization in the world. Limiting the research potential to only explore IPM on a national level while the international influences are excluded.

Fourthly, as mentioned in chapter 4.2 Results, there has been a mix-up between customer order projects which included EtO, CtO and ItO and the actual innovation projects of the firm. Due to this fact, the strict formulation of IPM projects has been neglected. Especially, because it would have developed partially invalid results from the interviews. Therefore, some of the theoretical assumptions had to be altered and sections needed to be clarified.

Lastly, there are some more limitations regarding the interviews. First of all, due to the Covid-19 virus all interviews were done through the usage of electronic devices. This influenced the way of interviewing, since it is harder to notice whether attention is paid and insights drawn from body language are more difficult to observed compared to face-to-face interviews. The sample size holds only seven different firms that have been interviewed which involved a total of 9 interviews with different individuals. This low number of firms leads to a lower valid amount of results which could have been used, raising the questions would the results be the same if different or more firms would have been interviewed? Indicating a limitation of the generalizability.

## 6.4 Further research

The outcome of this Master Thesis can be seen as an incremental step to mature the theoretical and practical knowledge and theories of IPM. Based on the previously mentioned outcomes of this study, multiple directions can be proposed for future research. First of all, the suggested limitations could be taken into account to start new studies, e.g. using a broader sample size to get a better sense of the generalizability of the results. Conducting the study with multiple researchers to enrich the study by avoiding incomplete and single-minded ideas by having multiple capable researchers focusing on a common goal.

Furthermore, interviewing international-based SMEs instead of national organizations could end up resulting in totally different information, while regional and international influences have not been included in this study. Further research could also change due to the increased attention towards Covid-19 and its needed regulations. It changed the roadmap of this study and it could repeat itself for potential future research. Instead of face-to-face interviews, the usage of electronic programs such as Zoom and Microsoft Teams would become more frequent in qualitative research. This impact could be researched and the best ways to use these kinds of software could be clarified.

Another implication for further research would be to include the medium firms within the SME definition as all respondent firms can be identified as small enterprises which could influence the outcomes of the potential future research. This study could eventually be used to compare the results of this future research and the current outcomes, to study the differences in IPM between medium and small-sized enterprises. Potentially, also providing deeper insights into the (dis)advantages of IPM in these firms.

Based on the discussion with Ronald Janssen (Expert 1), Agile: Scrum has only been touched upon lightly during this study, he suggested that further investigations are needed to understand the underlying dimensions behind and within the agile methods. Especially, as the results from this research suggests that every firm has his own way of applying Scrum.

Future research should also make use of the mix-up of customer order projects including the EtO, CtO and ItO together with the innovation projects which belong in the innovation portfolio. As mentioned before, ItO projects can partly belong in the innovation portfolio as well, however, in what manner has not been explored, leaving opportunities for further research. In addition, the difference between the two should be kept in mind. But a conclusion can be made that there is a certain coherence between both types of projects. Especially, in the service SMEs sector which in this case was focused on the Software and Strategy Consultancy branch.

Future studies could take this into account to exclude one from the other or investigate the correlation between the two even more.

Last but not least, in 5.3 it has been concluded that both emergent and deliberate strategies focused on IPM are present within SMEs. However, there has not been further distinction between the two and what influence it has on the IPM within the firms. Further research on both could fill gaps in the theories by using this study combined with already existing literature about emergent and deliberate strategies in SMEs.

## 6.5 Reflection

Reflecting back on the development of this Master Thesis it was a difficult process to go through. First of all, the decision to propose an own topic in a specific field appeared to be more difficult than originally planned. Especially, as it had to be attainable within the proposed timeframe which in the end was not met. Ideally, the chosen topic for the study was found within a few weeks, however, it took around a month to eventually have the right directions.

During this period, the corona virus shook the world, changing the way of working and also influencing the directions of this research. At first, it reduced the speed of the study as interviews were planned to be held face-to-face which was not possible anymore. Furthermore, knowledge about online interviews needed to be gained to eventually get better results.

Remaining objective during the study has been an overall goal. Nonetheless, it seems that there is no doubt that I, as a researcher, unconsciously influenced the outcomes of this study. Starting in chapter 2, by selecting certain sources to use as a base for the research. Furthermore, the way of interviewing and analysis of the respondents could have been influenced as it personalized per interview and has a semi-structured base. While each interview addressed the same topics, some answered deviated from each other between questions.

Influences on the responses of the interviewees cannot be denied as the systematic analysis of the theories discussed, has been used to conduct the interviews. Thus, influencing the topics discussed, the outcomes and reactions of all the interviewees and IPM experts. Doing the interviews before systematically researching the topic would have ended up with the fact that the researcher would have insufficient knowledge and insights to critically reflect on the answers given by the interviewees. While not being able to provide follow-up questions which are needed in a semi-structured interview format.

Looking back on the nine interviews, it was a difficult process to find the firms with the right potential to answer the questions based on the IPM content. Due to the specific needs that the firm had to be a service-oriented SME based in the Netherlands it limited the scope and potential

to ask loads of firms. Instead, carefully selected firms have been acquired who already had been in touch with Innovation Portfolio Management in one way or another.

Resulting from the interviews was a misunderstanding on the concept of IPM-practices. Reflecting on this problem, in the end the designated question was: to what extent are the customer order projects from the interviewed firms correlated with the required innovation projects which are studied in this thesis. In addition, do ItO belong in the innovation portfolio and/or do customer order project eventually lead to IPM-practices as well. This led to a limitation and a possibility for further research in the study. But it also slowed the eventual finalization as parts had to be rewritten and explained in a different manner. Meaning eventually the researcher needed to make do with the means which were made available through the desk and field research in order to finalize the study.

Lastly, the continuous struggle as a researcher to stay motivated while others had loads of time off, due to corona has showed to be difficult. There were times, a more structuralized approach would have led to more efficient results. In the end, this study resulted in a possibility to test his persistence and motivation in the field of IPM.

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## Appendices

### Appendix A: Balanced Scorecard Measurement Suggestions During Project Life Cycle

Figure 3. Balanced Scorecard Measurement Suggestions During Project Life Cycle

Project Gate/BSC Category	Customer	Internal Project	Finance	Growth/Innovation
<b>Initial Project Selection</b>	Statement of Work		Business Case	Organization's People and Systems
<b>End of Initiating Stage</b>	<ul style="list-style-type: none"> <li>• Scope overview</li> <li>• Business case</li> <li>• Stakeholder acceptance criteria</li> </ul>	<ul style="list-style-type: none"> <li>• High-level risks</li> <li>• Commitment</li> </ul>	<ul style="list-style-type: none"> <li>• Milestone schedule</li> <li>• Summary budget</li> </ul>	<ul style="list-style-type: none"> <li>• Team pre-assignment</li> <li>• Previous lessons learned</li> </ul>
<b>End of Planning Stage</b>	<ul style="list-style-type: none"> <li>• Requirements documentation</li> <li>• Scope baseline</li> <li>• Work breakdown structure</li> <li>• Communications of management plan</li> </ul>	<ul style="list-style-type: none"> <li>• Human resources plan</li> <li>• Change management plan</li> <li>• Risk management plan</li> <li>• Risk register</li> <li>• Quality management plan with metrics</li> <li>• Procurement management plan</li> <li>• Project management plan</li> </ul>	<ul style="list-style-type: none"> <li>• Schedule baseline with resources</li> <li>• Cost performance baseline</li> </ul>	<ul style="list-style-type: none"> <li>• Team ground rules</li> <li>• Improve management of project meetings</li> <li>• Project kick-off</li> </ul>
<b>During Executing</b>	<ul style="list-style-type: none"> <li>• Quality control measurements</li> <li>• Stakeholder notification and feedback</li> <li>• Project reports and records</li> <li>• Validated deliverables</li> </ul>	<ul style="list-style-type: none"> <li>• Contract awards</li> <li>• Performance information</li> <li>• Change requests</li> <li>• Risk register updates</li> <li>• Procurement documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Performance measures through earned value analysis</li> <li>• Project termination decision</li> </ul>	<ul style="list-style-type: none"> <li>• Team performance assessments</li> <li>• Process improvement</li> <li>• Replanning, Lessons learned application</li> </ul>
<b>End of Executing Stage</b>	<ul style="list-style-type: none"> <li>• Accepted deliverables</li> <li>• Initial realization of promised benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Complete project deliverables</li> </ul>	<ul style="list-style-type: none"> <li>• Project termination decision</li> <li>• ROI</li> </ul>	<ul style="list-style-type: none"> <li>• Celebration</li> <li>• Reward</li> </ul>
<b>End Closing</b>	<ul style="list-style-type: none"> <li>• Ongoing support</li> <li>• Customer feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Final transition of project deliverables</li> <li>• Closed procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Contract closure</li> <li>• Final project accounting</li> </ul>	<ul style="list-style-type: none"> <li>• Capture lessons learned</li> <li>• Reassign workers</li> </ul>
<b>During Leveraging</b>	<ul style="list-style-type: none"> <li>• Full benefits realized</li> </ul>	<ul style="list-style-type: none"> <li>• Reuse</li> </ul>	<ul style="list-style-type: none"> <li>• Auditable result</li> </ul>	<ul style="list-style-type: none"> <li>• Reapplication of lessons</li> </ul>

Note: At each gate, one measure is often the key objective, and the sponsor may select up to about five additional criteria. Not all the choices are shown. Therefore, counting the key objective, no more than about six items would be reported at any gate.

## Appendix B: Sample Gate 2 Scorecard

CRITERIA	0	4	7	10	SCORE
<b>Strategic Fit &amp; Importance</b> <ul style="list-style-type: none"> <li>Degree of alignment with business and/or innovation strategies</li> <li>Importance of the project to the company</li> </ul>	<ul style="list-style-type: none"> <li>Lack of alignment</li> <li>Project not important</li> </ul>			<ul style="list-style-type: none"> <li>Considerable alignment</li> <li>Project is very important</li> </ul>	
<b>Product &amp; Competitive Advantage</b> <ul style="list-style-type: none"> <li>Degree to which the potential product:</li> <li>Offers greater benefits to the customer</li> <li>Impacts competitive advantage</li> </ul>	<ul style="list-style-type: none"> <li>No competitive advantage; no impact on our ability to compete</li> </ul>			<ul style="list-style-type: none"> <li>Provides highly differentiated benefits</li> <li>Greatly enhances ability to compete</li> </ul>	
<b>Market Attractiveness</b> <ul style="list-style-type: none"> <li>Size of the market</li> <li>Rate of growth for the market</li> </ul>	<ul style="list-style-type: none"> <li>Small or niche market</li> <li>No or limited market growth</li> </ul>			<ul style="list-style-type: none"> <li>Very significant market</li> <li>High market growth</li> </ul>	
<b>Synergies &amp; Core Competencies</b> <ul style="list-style-type: none"> <li>Leverage our core competencies in marketing, sales, manufacturing/operations, and/or distribution</li> <li>Availability of required resources (skills, capability and experience)</li> </ul>	<ul style="list-style-type: none"> <li>Limited or no ability to leverage core competencies</li> <li>Required resources are not available and cannot be acquired</li> </ul>			<ul style="list-style-type: none"> <li>Strong opportunity to leverage core competencies</li> <li>Required resources are available and accessible</li> </ul>	
<b>Technical Feasibility</b> <ul style="list-style-type: none"> <li>Degree of technical complexity</li> <li>Size of the technical gap</li> </ul>	<ul style="list-style-type: none"> <li>Highly complex technical solution</li> <li>Very large technical gap</li> </ul>			<ul style="list-style-type: none"> <li>Straightforward technical solution</li> <li>No or limited technical gap</li> </ul>	
<b>Financial Reward vs. Financial Risk</b> <ul style="list-style-type: none"> <li>Length of payback period</li> <li>Level of financial risk</li> </ul>	<ul style="list-style-type: none"> <li>Long payback period</li> <li>Very high financial risk</li> </ul>			<ul style="list-style-type: none"> <li>Good payback period</li> <li>Limited financial risk that is acceptable</li> </ul>	
RECOMMENDATION:	<input type="checkbox"/> GO <input type="checkbox"/> KILL <input type="checkbox"/> RECYCLE <input type="checkbox"/> HOLD				TOTAL SCORE

## Appendix C: Typologies of SMEs Netherlands

These are the 10 typologies from (Verhoeven, Span, & Prince, 2015) a table has been made and added below to show each dimensions characteristics and the applicability.

NUMBER:	DIMENSION CHARACTERISTICS:	APPLICABILITY
1.	Flow of goods	Low
2.	Legal form	Low
3.	Production process	Low
4.	Organizational structure	Medium
5.	Degree of innovation	High
6.	Market orientation	Medium
7.	Firms life phase	Medium
8.	Performance of the firm	High
9.	Strategy and ambition	High
10.	Entrepreneurial type	Medium

## Appendix D: Semi-structured Interview Format (Dutch)

### Introductie (+/- 5 min)

**Voordat we beginnen vindt u het goed dat ik de interview opneem? Zodat ik alles daarna kan transcriberen en coderen.**

- Kort voorstellen
- Master thesis uitleggen en het doel ervan:

*Met mijn Master Thesis wil ik een bijdrage leveren aan de theorie van innovatie portfolio management. Uit onderzoek blijkt dat vooral de grote bedrijven binnen de maak industrie zijn onderzocht binnen dit onderwerp. Het MKB lijkt daarentegen helemaal te zijn vergeten, terwijl het wordt gezien als de drijfveer van de economie. Dit is de reden dat dit onderzoek zich focust op het Nederlandse MKB binnen de service-industrie. Mijn onderzoeksvraag is dan ook: How do Dutch SMEs in the service sector structure their Innovation Portfolio Management?*

*Het doel van dit interview is om te valideren hoe IPM eruitziet in deze sector, de strategische en operationele kanten van IPM, hoe MKB-bedrijven het innovatie portfolio structureren en hierbij probeer ik ook erachter te komen op welk IPM-niveau het bedrijf opereert.*

- Duur van interview (max. 1 uur)
- Anonimiteit
- Structuur van het interview

Start Gesprek

Innovation Portfolio Management

- Strategische IPM
- Operationeel IPM

PM in the Netherlands

Portfolio Mix & Performance

Afsluiting

- Duidelijk? Zijn er nog vragen?

### Start gesprek (+/- 5 min)

*Kennismaking interviewee en bedrijf.*

- Kunt u zich voorstellen?
- Wat is uw huidige functie?
- Welke werkzaamheden heeft u zoal?

- Hoeveel werkzaamheden zijn direct gerelateerd aan IPM?

*Verder wat vragen over het bedrijf*

- Wat is de “core business” van het bedrijf?
- Focust het bedrijf zich vooral op groei of continuïteit? Of een combinatie van?
- Hoe innovatief zou u het bedrijf bestempelen? Waarom?

### **Innovation Portfolio Management (+/- 20 min)**

*Om erachter te komen hoe IPM binnen het bedrijf eruitziet heb ik een aantal vragen over hoe IPM in zijn werking gaat en wordt gestructureerd binnen “bedrijf”. Dit is vooral gefocust op de strategische en operationele kanten van IPM.*

- Kunt u het IPM binnen het bedrijf beschrijven?
- Was er een bepaalde aanleiding binnen het bedrijf om IPM te gaan gebruiken?
- Kijkend naar het IPM in de organisatie, is dit meer een formeel of informeel proces binnen de organisatie?

### **Strategische IPM**

**Hoe wordt bepaald welke nieuwe projecten worden gestart en welke lopende projecten worden geëlimineerd, doorgezet/ in de wachtkamer gezet (gestopt) of veranderd.**

- Wie beslist over dat bepaalde projecten doorgaan en sommige niet? Zijn dit bepaalde personen? Is er een Projectmanagement office?
- Worden hiervoor bepaalde modellen gebruikt voor de strategie en uitvoering? Zoals het Stage-Gate Model of Balanced Score-card? Eventueel uitleg. (Zie bijlage)
- De strategie achter het structureren van het IPM is dit meer een opkomend of meer een opzettelijk proces?
- Zijn de projecten voornamelijk short-term (ROI) of long term oriented (Real-option value)? (Zie bijlage)

### **Operationeel IPM**

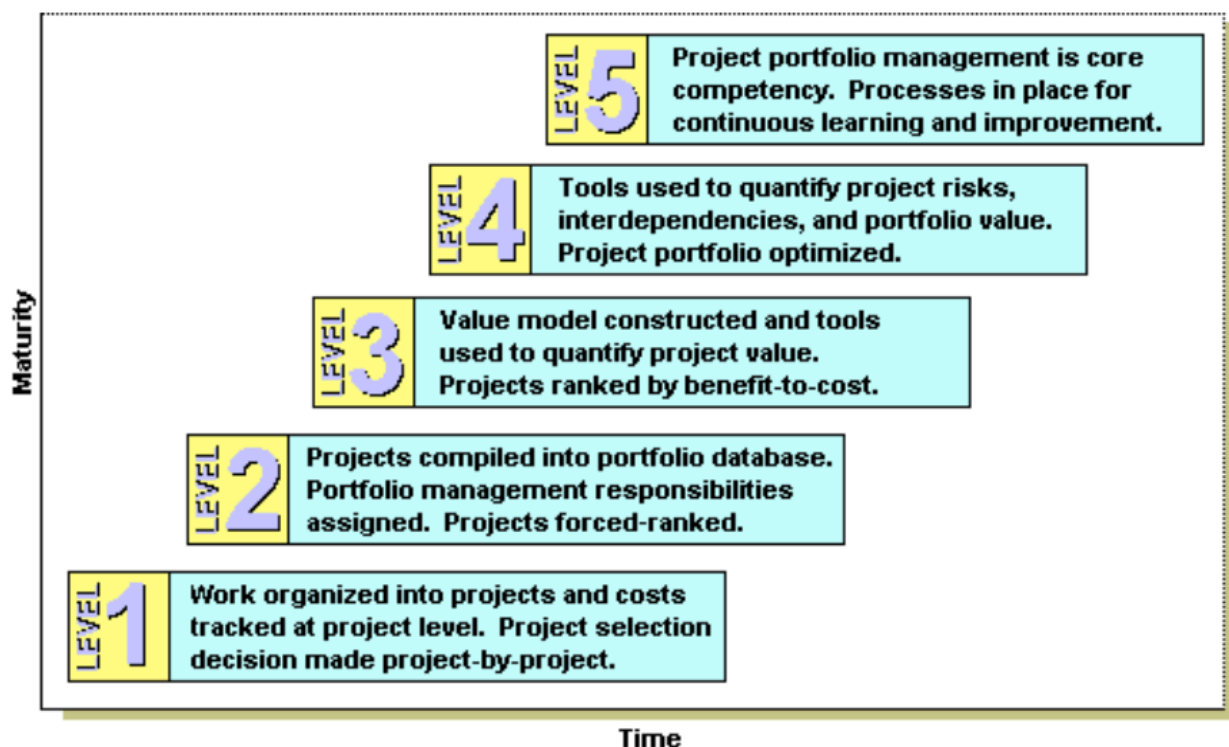
**Interferenties tussen lopende projecten**

- Hoe ziet de Operationele portfolio management kant eruit?
- Is hier een bepaald stappenplan voor? Zoals het Analyse/involve/align/execute (bijlage)? Wordt een soort projectmanagement kalender gebruikt? Voor deadlines en launches? En eventuele project afsluitingen?

- Is er een prioritzatie binnen de projecten? En wordt dit dan ook gestructureerd? High/med/low priority? En waarop is dit gebaseerd?
- Wat is de omvang van de afdeling die besluit over het IPM gebruik & budget hiervoor?
- Wat is de hoeveelheid van gelijktijdige projecten met betrekking op IPM?
- Hoe ziet de rapportage van een project uit? Wordt deze rapportage binnen een project aangepast gebaseerd op de tijdsduur?

### PM in the Netherlands (+/- 5 min)

Op basis van de theorie van Thiadens en Steenbakkers, zijn er 5 verschillende niveaus binnen Portfolio Management. Welk niveau vindt u het beste passen bij uw organisatie? Waarom?



### Portfolio Mix & Performance (+/- 5 min)

- Kunt u iets zeggen over de (gewenste) resultaten die zijn geboekt bij de implementaties van bepaalde projecten?
- Wat voor een moeilijkheden heeft het bedrijf ervaren? Hoe zijn deze eventueel vermeden? Opgelost?
- Zijn er nog bepaalde bevorderende factoren voor de performance?
- Wat is in essentie de toegevoegde waarde van IPM in het bedrijf?

### Slot (+/- 5 min)

- Als u terugkijkt naar de verschillende onderwerpen en de antwoorden die u heeft gegeven op mijn vragen, is er specifieke kennis die u dan op voorhand eigenlijk al had willen hebben (die u niet had)?
- Heeft u nog verbeterpunten? Is er een mogelijkheid dat het gewenste resultaat sneller, efficiënter of met een betere kwaliteit bereikt had kunnen worden?
- Zijn er nog onderwerpen die u graag zou willen bespreken?
- Heeft u nog inhoudelijke vragen over het interview?
- Met het oog op de inhoud verifiëren zodat u het kan controleren, aanvullen of wijzigen wanneer u dit wenselijk of noodzakelijk acht. Heeft u binnenkort een vakantie gepland waar ik rekening mee moet houden?

***Voordat ik u bedank, wil ik vragen of u nog tips heeft voor mij en mijn volgende interviews.***

***Dank u voor uw bijdrage aan dit onderzoek!***

### Appendix E: Example of a transcript (Dutch)

To give a brief example how the usual transcripts in this research looked like, the first two pages of interview 7 with Supply Value have been added. All the information was recorded and also confirmed to be transcribed as closely as possible to the truth. The full transcripts of all interviews have been summarized in one document which can be requested if needed.

Interview 7

Firm: Supply Value

Interviewee: Geerten Peek

Language: Dutch

00:00 Pim: zo de recording zet ik aan. Uhm. Voordat we beginnen zou ik mij nog even kort voorstellen?

00:07 Geerten: Ja.

00:09 Pim: Ik ben 24 jaar oud, ik woon samen met mijn vriendin in Nijmegen. Ik studeer dan ook aan de Radboud Universiteit in Nijmegen en ik doe de master innovation & Entrepreneurship. En daarvoor heb ik deze masterthesis opgezet en vanuit eigen interesse heb ik portfolio en projectmanagement gekozen. En daar heb ik eigenlijk wat theorieën bekeken en daaruit blijkt dat vooral de grotere bedrijven onderzocht zijn. Ook waarschijnlijk met de reden dat die veel meer dat implementeren. En ik was dan ook heel erg benieuwd hoe de kleinere MKB-bedrijven dat implementeren.

00:53 Geerten: Ja. Ja.

00:55 Pim: En wat ik tot nu toe heb gezien is dat een bedrijf wat rond de 80 man zit, die hebben een iets meer portfolio management idee. Terwijl de kleinere bedrijven dat bijna tot niet hebben. En uiteindelijk heb ik dan ook als onderzoeksvraag: How do Dutch Service SMEs structure their Innovation Portfolio Management? En het doel van deze interview is dan ook hoe dat IPM er dan ook uit ziet bij dit soort bedrijven.

01:29 Geerten: Ja.

01:33 Pim: Max duurt het een uurtje. Als we een beetje efficiënt werken is het meestal 40/50 minuten als ergens te lang blijven praten, dan kan het snel boven het uur uitkomen. Dan moet ik nog altijd vragen kwa anoniem blijven ja of nee? Kan ik uw naam gebruiken en de bedrijfsnaam of een alias?

01:56 Geerten: Naam en bedrijfsnaam mag. Dat is geen probleem. In je onderzoek bedoel je dan of?

01:57 Pim: Gewoon voor in het onderzoek, dat ik in het transcript, uw voornaam en achternaam neerzet en alles wat u zegt en dat ik Supply Value aangeven als een van de bedrijven die ik geïnterviewd heb.

02:17 Geerten: Ja dat is prima. Dat kan geen punt.

02:22 Pim: De structuur van het interview heb je eigenlijk al een beetje doorgenomen, we starten met een kleine introductie. Wat dieper ingaand op IPM met een strategisch en operationeel gedeelte. En daar zit dan een klein stukje theorie en performance in. En dan heb je eigenlijk alweer de afsluiting. Is dat duidelijk?

02:39 Geerten: Ja. Ja.

02:44 Pim: Top, dan zou ik als eerste willen vragen, kunt u zich voorstellen, wat uw huidige functie is en wat voor werkzaamheden met zich meebrengt?

02:53 Geerten: Ja, ik ben Geerten Peek. 55 jaar. Wij wonen in Oosterhout tussen Arnhem en Nijmegen dus niet te ver weg. De regio is bekend.

03:03 Pim: Ja.

03:05 Geerten: De Radboud universiteit ook. Daar heb ik destijds zelf aan gestudeerd. En we hebben vrij intensief contact met de universiteit. Voornamelijk met de studieverenigingen en ongetwijfeld heb je onze naam daar ook een horen vallen. Uhm. Ik ben bij Supply value sinds 1 januari 2019. Daarvoor lang in een IT-consultancy gewerkt. Voor mij was het dus ook een stap naar een veel kleinere organisatie. Wel een snelgroeiend bedrijf. Komen we ongetwijfeld nog wel op terug. En mijn rol ik ben nu verantwoordelijk voor onze businessunit digital. Dus een team van 8 mensen die zich richten op de dienstverlening aan klanten die met digitalisering te maken hebben. Dat kan meer data gedreven werken zijn, of een inrichting van een IT-regie in een organisatie. Dus dat is typische waar wij mee bezig zijn. Uhm. Ja dat. En binnen onze organisatie ben ik dan ook verantwoordelijk voor een aantal kernprocessen. Dit moment voor het kernproces bedrijfsvoering. Dus zeg maar onze IT en onze eigen verander agenda onder valt.

04:14 Pim: Oké, duidelijk.

04:18 Geerten: ja.

04:22 Pim: Dan ga ik meteen verder over het bedrijf zelf. Zou je het bedrijf. De core business van het bedrijf kunnen vertellen?

04:27 Geerten: Ja, een strategie, advies en implementatiebureau zo noemen we ons zelf. De core business is bedrijven en organisaties helpen met het opzetten van hun strategie. Uhm. Vooral het zelf implementeren daarvan. We zijn niet alleen maar gefocust op dat stukje advies maar net te helpen om dat advies te realiseren. En in de praktijk succes te worden.

04:55 Pim: Oké. Dat had ik ook al een beetje via de website meegekregen, maar het is toch altijd fijn om dat nog ene keer te valideren.

05:01 Geerten: Fijn om te horen dat je je ook voorbereidt hebt.

05:03 Pim: Ja precies. En is er ook echt een focus op groei of continuïteit binnen het bedrijf?

05:14 Geerten: De vraag viel een beetje weg zeg maar.

05:16 Pim: Als je het bedrijf bekijkt is daar een focus op groei of continuïteit? Of meer een combinatie.

05:26 Geerten: Bijzonder natuurlijk in deze tijd.

05:30 Pim: Ja.

05:34 Geerten: Tot medio Maart dit jaar was het antwoord 100% groei. We hebben de afgelopen 3 jaar ook een FD Gazelle Award gewonnen wat betekent dat je vanuit een winstgevende basis minimaal 20% groeit in omzet en medewerkers. En dat zal dit jaar twijfelachtig zijn of we dat dit jaar gaan halen. Door de corona-crisis hebben we eerst gezegd hoe kunnen we dit op een goeie manier beantwoorden en reageren. Maar uiteindelijk is onze focus nog altijd op groei zeg maar. De reactie op het coronavirus, hoe kunnen we hier zo sterk mogelijk weer uitkomen? Nooit het oog op kosten gehad. Wordt natuurlijk wel gemonitord maar de focus blijft op uiteindelijk op groei.

06:26 Pim: Oké, laatste vraag over het bedrijf. Hoe innovatief zou je het bedrijf bestempelen? Blijkt lastig voor dit soort bedrijven maar toch altijd benieuwd naar het antwoord.

06:39 Geerten: We zijn niet zo zeer innovatief vanuit Technology. Maar we zijn innovatief in de oplossingen en aanbiedingen die wij hebben voor onze cliënten. We hebben een groep jonge mensen in dienst die vers vanuit hun opleiding komen. En net als jij in het schrijven van hun Masterthesis echt iets onderscheidend te doen. En die spirit en drive proberen we ook vast te houden. Dus daarin proberen we die mensen mee te nemen maar ook die mensen uit te dagen om dat innovatieve wat ze in hun Master Thesis hebben gedaan mee te brengen, onze kennis te vernieuwen en onze proposities naar onze klant vernieuwen en onderscheiden. We noemen het zelf eerder toonaangevend dan innovatief. Maar om toonaangevend te zijn moet je wel vooroplopen en onderscheidende proposities hebben.

07:36 Pim: Oké, duidelijk. Dan gaan we wat dieper in op de stof zelf, dat echte IPM en dat is eigenlijk meer om erachter te komen hoe het bij het bedrijf eruitziet. En daar heb ik een aantal vraagjes over. Eerst 3 algemene vragen en daarna wordt het gestructureerd in een strategisch en operationeel gedeelte. Op basis van het strategisch gedeelte van het bedrijf en het operationeel gedeelte. Zou je het innovatie portfolio management binnen het bedrijf kunnen omschrijven?

08:07 Geerten: Ja. Ik weet niet hoe makkelijk dat voor jou is. Maar ik ga 2 antwoorden geven. 1 voor ons zelf. Uhm... en daar is innovatie portfolio management gedreven vanuit kennismanagement. Dus we hebben een kennismanagement als kernproces neergezet. Waar we echt zeggen welke kennis hebben we en welke moeten we verbeteren. En hoe wordt deze in de rest van het bedrijf gebruikt? En zo innoveren we onze dienstverlening. Het 2de, specifiek in mijn businessunit kijken naar hoe onze klanten omgaan met innovatie. Bijvoorbeeld ook de CIO's van die organisaties. Die moeten omgaan met een snel veranderde technologische omgeving. En hoe je daarop gaat reageren als organisatie. En daar dan de juiste wegen in kiezen. En hoe kunnen wij de CIO daarin ondersteunen. En wij zijn nu onze proposities zo in het richten dat wij die CIO's optimaal kunnen ondersteunen. Daar te bepalen hoe ze staan en de goeie vervolgslog te kiezen, en daar succesvol in te worden. En dat innovatie portfolio, dat is eigenlijk wel iets wat we ontwikkelen als propositie is waar we nog aan het werken zijn.

09:28 Pim: Oké. En was daar een aanleiding toe om dat te gaan gebruiken ook?

09:41 Geerten: Niet een echte aanleiding zeg maar. We zijn gewoon, het is onderdeel van ons jaarplan om te zeggen oké, we gaan deze proposities ontwikkelen. We zijn in 2019 met deze units opgestart en toen eerste gekeken naar meer data gedrevene werken en nu dus meer hoe we de CIO kunnen helpen met innovaties.

10:08 Pim: Dus ook een beetje door de groei van het bedrijf? Dus eigenlijk een soort van?

## Appendix F: Coding scheme

The shown table below provides an example how coding has been done throughout the research and how open, axial and selective codes were selected. The full coding process has been done in an excel sheet which can be requested if interested in inspecting the whole process.

Interview:	Example:	Open Code	Axial Code	Selective Code
Interview 1 to 7 (based on information provided in table 4)	Original Quote / Transcript Fragment (Dutch)	Interpretation of Quote (translated to English)	Identification of relationships between open codes	Linking code to existing or new concepts

The codes are split up based upon the interview questions which are structured based on the theoretical framework. The excel sheet includes 222 quotes which have been translated into open, axial and finally 3 selective codes. An example is shown below.

Q1 Wie beslist over dat bepaalde projecten doorgaan en sommige niet? Zijn dit bepaalde personen? Is er een Projectmanagement office?				
Interview:	Example:	Open Code	Axial Code	Selective Code
1	13:49 Alain Deckers: <u>Uhm, hoe wordt dat bepaald, er wordt wel eens gezegd, daar geven we nu geen aandacht aan, of daar moeten wij nu mee stoppen. Dat kan dus van alles zijn, dat kan een aanleiding hebben dat het niet rendeert, of het duurt te lang, de executiekracht om het naar de markt toe te brengen duurt te lang, daar heeft het eigenlijk mee te maken. Dat komt voor. Maar ook, even kijken, het stop zetten, niet zo, dat is momenteel wel een continu proces waar de thema's in de lucht blijven, maar je ziet wel een bepaalde werkmethodeken, om een project in de gaten te houden, wel een wat wijzigen in doorvoeren.</u>	No real decision making proces, project are continued based on outcome.	decision making process	innovation portfolio managment process
1	15:09 Alain Deckers: <u>Dat wisselt heel erg af, dat heeft te maken platte organisatie zijn. Wij hebben niet echt een hiërarchie, er is niet echt een besluitvorming van up the top.</u>	flat organisation, no top-down management	organisational hierarchy	organisation
2	13:04 Geert: <u>We hebben natuurlijk naar de klant toe, maar intern hebben we projecten die worden opgepakt zoals dat stukje duurzaamheid. En we zijn met energietransitie bezig. En het is eigenlijk heel mandaat om te zeggen welk gedeelte van de mensen daar mee aan de slag gaan of in welk gedeelte van de week. Dat ligt in principe bij onze baas. We hebben in principe opgebouwd met 2 directeuren. Eentje op operationele gedeelte en de andere meer het algemeen management. Die bepalen wel intern waar we bepaalde focus op leggen. We proberen daarin wel te kijken of wij daarin een interne standaard in krijgen. Zodat we een x aantal uren bij de klant draait want dat is wel belangrijk. Gelijktijd proberen we daar niet een heilige graal van te maken. We proberen daar wel een bepaalde flexibiliteit in te houden, vooral ook op persoonlijk niveau. Als je dan natuurlijk kijkt naar de klanten toe, daar bepaald eigenlijk de klant of een project doorgaat. Daar helpen wij die klant mee, als wij ook zien, dit project is niet van levensvatbaar, en dan proberen we ook aan te geven waarom niet. Ja, dus dan ben je eigenlijk zelf die persoon die bij die klant er een rol in speelt. En dit geeft je een beetje een beeld.</u>	Strategically, internal projects are planned and decided by the bosses, the firms has 2. No formal structure, focus on flexibility, client projects get prioritized over internal projects.	decision making process	innovation portfolio managment process

## Appendix G: Alternative method of Projects (Komexo)



## Appendix H: Alternative method: Traffic Light Tool (MareVisie)

Project Management Report		Status	Scope	Time	Budget
Date	1-2-2019	●	●	●	●
Company		●	●	●	●
Name		●	●	●	●
Highlights					

Changes & Issues				
Description	Value (time, €, N/A)	Category <sup>1</sup>	Tolerances <sup>2</sup> (C, PM, SCom)	Decision made / TBD

<sup>1</sup>INTF = Interfaces, SCOP = Scope, COGS = Costs Of Goods Sold, EAC = estimated at completion, INPL = Individual Planning, PRPL = Project Planning.

<sup>2</sup>Report Instructions! C = Company, PM = Project Management, SCom = Steering Committee.

Financials	
	Estimated at completion (EAC)
FUMO-a	€
FUMO-a + b1	€
Till start production EA tools	€

Estimated COGS (per EA)	€
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**Don't forget to add new risks to the Risk Log on SharePoint -> Project Management -> Risk Log!**

## Appendix I: Summaries Experts talks (Dutch)

### Interview 8 (Gesprek met Expert)

Firm: ORGfit

Interviewee: Ronald Janssen

Language: Dutch

Duration: 51:17

### Algemeen IPM

Het interview is voornamelijk gericht op de resultaten van de interviews, hierbij is gekeken naar de 4 softwareconsultancy 's en 3 strategische consultancy 's. 6 van deze consultancy 's blijken heel informeel om te gaan met hun innovatie portfolio management. Ronald Janssen geeft aan dat dit aan de aard en omvang van het bedrijf kan liggen. Hierbij geeft hij ook aan dat er echt een verschil zit tussen informeel te werk gaan en structuur aan brengen. Gestructureerd werken kan ook zonder echte formele afspraken te maken. Verder geeft hij als voorbeeld dat als je een zorginstelling pakt, of een gemeentelijke instantie met 500 medewerkers, die ook meerdere projecten hebben lopen, dat hier wel in bepaalde maten meer structuur en formaliteit nodig is om de projecten in de juiste banen te leiden. Een MKB-klant van Ronald Janssen, was tevens een goed voorbeeld, hier gaf hij aan dat het wel geformaliseerd werd binnen het bedrijf, maar op laag niveau. Een Portfolio board of officiële mijlpalen en gateways zijn lastig bij MKB bedrijven. Vooral wanneer je met de ondernemer zelf te maken hebt. De principes erachter daarentegen wel.

Changing and running the business. De meeste MKB-bedrijven zijn altijd bezig met de vraag van vandaag en morgen maar een enkeling ook met de lange termijn. Maar alsnog is dit verschillende per bedrijf in het MKB. Heeft het bedrijf bijv. een MT, dan geeft hij meestal als suggestie om Ronald Janssen week in de maand innovatie centraal te zetten. Terwijl bij grotere bedrijven echt een portfolio manager aangewezen kan worden die projecten via verschillende gateways van "idee naar champagne" loodst. En hier is het dan ook echt formeel met documentenstromen, rapportages en dashboards.

### **Strategisch**

De Agile methode: Scrum wordt door 6/7 bedrijven geïmplementeerd, standaard als methodiek gebruikte achter de bedrijfsvoering. Hierbij gaf Ronald Janssen meteen aan dat dit een heel apart onderzoek waard zou kunnen zijn. Want wat is dat dan? Ze doen dat zelf ook, maar er zitten een aantal principes in die wel toegepast worden maar ook een aantal niet en geldt dit ook voor die andere bedrijven? Want als "hardcore" toegepast zou worden moet er elke dag een daily stand-up en review gedaan worden. Wat niet werkt in een consultancy bedrijf. Maar wel de principes van werk in kleine stukjes hakken en opleveren en voortgang bijhouden in wekelijkse vorm. De voornamelijk waarde hiervan is het managen van alle gelijktijdige projecten oftewel structuur aanbrengen.

Verder waren er 5 gefocust op de outcome of de projecten (ROI-driven) terwijl 2 meer een mix hadden tussen korte en langste termijn. Ronald Janssen denkt dat dit wel kan kloppen, je wilt als bedrijf natuurlijk door ontwikkelen maar de klantvraag van dit moment gaat voor. Corona zou hier ook nog een invloed op kunnen hebben doordat meerdere consultant meer tijd hebben om te focussen op interne projecten. Maar vooral horizon Ronald Janssen gedreven door commerciële doeleindes. Een ROI zal bij de meeste consultancy 's niet meteen aan elk project te koppelen zijn, maar er is wel een link waarom besteed je de tijd hieraan, omdat je dit bij meerdere projecten ook kunt implementeren.

Van de 7 bedrijven gaven 4 aan dat de structuren achter de strategie heel opzettelijk zijn neergezet terwijl 3 andere net opkomend aangaven. Dit blijkt lastig te generaliseren omdat de vraag is: inside-out of outside-in? Hierbij geeft Ronald Janssen aan dat het meestal meer een groei zal zijn op de proposities die ze al hebben, tegenover echte "radical ideas".

### **Operationeel**

Ieder bedrijven gaf aan geen strikte structuur zoals de Analyse/involve/align/execute, pragmatische, gevoelsmatige aanpak staat voorop. Ronald Janssen bevestigd dat dit waar is. Agile zou hier weer als aanknopingspunt gebruikt kunnen worden. Wendbaarheid en continu bijsturen op belangrijke zaken en deze afmaken lijkt de grote oorzaak hiervan te zijn bij consultancy 's. Naarmate de MKB-organisatie groeit, des te meer structuur moet er aangebracht worden.

4 bedrijven gaven aan dat externe projecten altijd voorrang krijgen op de interne projecten. In consultancy 's verschilt dit ook op basis van de workload, in de zomermaanden is er minder werk dus meer tijd voor interne projecten terwijl bijvoorbeeld september, oktober voornamelijk op klanten gericht is. Labelen van projecten is ook echt iets wat je bij grotere bedrijven ziet, en binnen consultancy 's is dat niet geformaliseerd.

Naarmate hoe groot de impact is van de projecten des te meer de besluitvorming veranderd. Kleine impacts kunnen lager in de organisatie afgehandeld worden terwijl grotere projecten al snel bij het MT belanden. Ronald Janssen geeft hierbij aan dat binnen consultaties vaak een platte hiërarchie zit met een hoog level van hergebruik binnen projecten, waardoor vaak op een laag niveau over elk project bepaald kan worden. Maar dat kan je dus ook weer relateren aan het feit dat bijna alle consultancy 's aangaven rond horizon een te zitten.

2 bedrijven gaven aan Progressie meetings elke maand te doen, terwijl de meeste wekelijkse meetings hielden. Hierbij gaf Ronald Janssen aan dat dit ligt aan het wat voor een documentenstroom een bedrijf heeft. Dit kan per consultancy verschillen op basis van het soort

branches en producten. Stel je hebt een formele branche daar zal vaker een meeting plaatsvinden. Het blijkt dus een combinatie van factoren te zijn die dit beïnvloeden.

### **IPM in Nederland**

6x was level een van de vijf de uitkomst op basis van de theorie van Thiadens en Steenbakkers. Hierbij werd aangegeven dat hogere levels problemen zouden kunnen opleveren met de core competenties van de desbetreffende bedrijven. Volgens Ronald Janssen, hebben grotere bedrijven meerdere projecten tegelijk met meer samenhang waardoor je dus een overhead rol zou kunnen creëren en terugverdienen. Waardoor hij concludeert dat het MKB maar ook nog een aantal grotere partijen nog altijd op level een zitten. Hierbij betwijfelt hij of een bedrijf van Ronald Janssen 50 man, een level drie kunnen hanteren want hij is dit in de praktijk pas een keer tegengekomen bij een grote bank met 700+ man. Maar bij andere bedrijven komt hij deze niveaus niet tegen.

### **Portfolio Mix & Performance**

Volgens Ronald Janssen is het voordeel van consultancy bedrijven dat er altijd een wil is. Mensen willen innoveren, willen veranderen. Alleen de strategie moet bekend zijn van het bedrijf. Anders kan men niet een juiste toevoeging of verbetering realiseren. Het moet logisch zijn waar de innovatie naartoe gaat. Motivatie en enthousiasme werd ook als echte drijfveer achter een hoge performance en verander processen. Die energie moet alleen gekanaliseerd worden zodat er een bepaalde richting ingeslagen kan worden. Het heeft geen zin om 2 maanden bezig te zijn met iets wat niet past bij de rest van het bedrijf.

6/7 bedrijven gaven ook aan dat IPM in essentie een bepaalde structuur met zich mee bracht waardoor beter werk verricht kan worden. De ander gaf aan dat kennis en ervaringen verzameld kunnen worden binnen de projecten. Dit bevestigt Ronald Janssen. Het zorgt dat energie de goede kant op geleid wordt. Dus dat kan je als een informele structuur zien.

### **Interview 9 (gesprek met expert)**

Interview 9

Firm: Marevisie

Interviewee: Geert van Stuijvenberg

Language: Dutch

Duration: 42:27

### **Algemeen:**

Het interview is voornamelijk gericht op de resultaten van de interviews, hierbij is gekeken naar de 4 softwareconsultancy's en 3 strategische consultancy's. 6 van deze consultancy's blijken heel informeel om te gaan met hun innovatie portfolio management. Geert van Stuijvenberg bevestigt dit voor MKB-bedrijven. Formele voorwaarden binnen processen is vaak geen optie omdat dit soort bedrijven snel vooruit willen.

### **Strategisch:**

6/7 zeiden ook al meteen we hebben geen specifiek manier PMB maar dat het Senior Management deze beslissingen maakt. Volgens Geert van Stuijvenberg kan dat zeker zo zijn, voornamelijk doordat bij dit soort bedrijven dan waarschijnlijk de noodzaak om de senior consultants te ontlasten groter is. De kleinere het bedrijf des te vaker is het senior management betrokken bij projecten in vergelijking met hetzelfde soort project in grotere bedrijven. Voornamelijk omdat de achterliggende businesscase dan vanuit senior management komt. Agile: Scrum is ook bij 6/7 bedrijven aanwezig. Geert van Stuijvenberg bevestigt dat je bij alle kleinere bedrijven die met projecten bezig zijn dit wel gebruiken. Andere hulpmiddelen zoals GIRA en TRILLO zijn echt om de informatiestromen te managen. Wat Geert van Stuijvenberg al snel koppelt aan LEAN-principes. Tailormade projectmanagement is vaak ter plekke. Prince 2

kan je zien als een encyclopedie over projectmanagement. Verder geeft hij aan dat bijna geen een bedrijf nog echt Prince 2 volledig toepast. 5/7 outcome-driven lijkt generaliseerbaar volgens Geert van Stuijvenberg omdat consultaties een soort opleverplicht hebben. Verder geeft hij aan dat op het moment dat je richting compliance toegaat binnen consultancy, meer processen zou zien die strikter uitgevoerd worden. Dus specifiek consultancy outcome-driven noemen lijkt niet juist, meer specificatie op het type consultancy die je hebt onderzocht is nodig.

Meerdere respondenten gaven ook aan short-term gericht te zijn. Hierbij gaf Geert van Stuijvenberg aan dat dit meestal ook financieel het interessantste is voor dit soort bedrijven. Hoe kleiner het bedrijf, des te groter is ook het belang, om sneller te schakelen en je beperkte klantengroep tevreden blijft om financieel gezond te blijven.

### **Operationeel**

Alle bedrijven hebben telkens een soort structuur achter de portfolio en projectmanagement. Maar het blijkt vooral pragmatische. Hierbij geeft Geert van Stuijvenberg vanuit Prince2 de 3 fases analyseren, resource beschikbaar stellen/krijgen en dan de uitvoering vaker samengevoegd worden binnen bedrijven naarmate hoe groot of klein het project is. Meestal worden stap 1 en 2 samengevoegd waarna de uitvoering van het project volgt. Hierbij kan nog meegenomen worden dat het type branche invloed kan hebben. Stel je werkt voor een reactor, dan is het vooral risico's indekken.

4/7 gaven aan dat klant-gefocust projecten vooral voorrang kregen. Volgens Geert van Stuijvenberg is binnen de consultancy bijna elk project extern of klant gefocust, ook de interne projecten leiden uiteindelijk tot een hogere efficiency hierbij moeten externe projecten volgens Geert van Stuijvenberg toegelicht worden dat deze echt klant gericht zijn, het is een vrij breed interpreteerbaar begrip.

Rapportage stromen zijn volgens Geert van Stuijvenberg ook verschillend door de dynamiek van de bedrijven, naarmate hoeveel mensen werken in een bedrijf, des te meer rapportage moeilijkheden komen er met zich mee. Verder geeft hij aan dat voor het hogere managementteam zich met de onderliggende strategie bezighoudt binnen MKB-bedrijven. Dit bevestigt de bevindingen de bevindingen uit de interviews. Verder geeft Geert van Stuijvenberg aan dat dit vaker op maandelijkse basis plaatsvindt dan wekelijks. Maar het blijkt ook een continu proces te zijn, dat steeds veranderd binnen bedrijven met basis op veranderingen in de markt.

### **IPM in Nederland**

6/7 bedrijven waren duidelijk georiënteerd op level 1. Het zou te veel tijd kosten om naar hogere levels te gaan, en hierdoor zouden ze weg kunnen gaan bij core business en competenties. Geert van Stuijvenberg bevestigt de bevindingen van het gesprek met expert 1, dat ook de grotere bedrijven alsnog op een level zou kunnen zitten. Een level 2 of 3, zie je vaker pas echt bij grotere striktere bedrijven zoals banken en overheden waar portfolio management eerder een core competentie is tegenover support rol binnen de organisatie.

### **Portfolio Mix & Performance**

6/7 bedrijven zien structuur in essentie als de echte toegevoegde waarde van IPM. En dat een kennis en ervaring meebrengt. Geert van Stuijvenberg bevestigt dat je dit op deze manier zou kunnen generaliseren. Hierbij geeft hij aan dat consultants meestal "dedicated" zijn om projecten af te maken waardoor je een hogere performance hebt. De verantwoordelijkheid die consultants krijgen over een project geeft daarnaast ook nog een boost hieraan.