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Master's Thesis
**Developing business process model to support internal
new product launch process**

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ABSTRACT

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The purpose of this study is to develop a business process model, which supports internal new product launch process. The goal of the study is to develop a model of an existing new product launch process inside an organisation by creating process model and process information map. The goal is also to create a solution for the practical problems at the case organisation: missing information flow creating information cuts, misunderstandings, and undone tasks as well as uncommunication between process participants. The study highlights information transfer related aspects in relation to the subject process. From theoretical point of view, the research concentrates on investigating business process modelling by understanding business processes, the impact of knowledge management in organisations and managing change in organisations. From empirical point of view the research is formed around constructions in regard of process model and information map developments to examine the phenomenon and process in the case organisation.

This research was conducted with three-dimensional strategy: qualitative research as for forming the research outline and helping technique for means of the constructions, case study method as for the research environment and constructive method as for conducting the research itself. The research case in this paper is the internal new product launch process. The organisation is creating the research environment and is the context for the case. The organisation is a foreign subsidiary, a production facility, of a multinational technology company.

The study resulted a business process model describing the internal new product launch process of the case organisation and a process model complementing information map describing the process responsibilities. This study is a strong indication of the internally important elements in regard of new product launch as it can be firmly concluded that internal information flow and finding correct people to do the work are critical aspects in relation to the process. Constructive research method has brought together the individuals from the organisation, which integrates in the process model and information map. Moreover, the information map represents a support system for dealing with the subject process and promotes information and knowledge sharing across the organisation.

TIIVISTELMÄ

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Tämän tutkimuksen tarkoitus on kehittää prosessimallinnus, joka tukee sisäistä uuden tuotteen lanseerausprosessia. Tutkimuksen tavoite on luoda malli yrityksen olemassa olevasta prosessista luoden prosessimalli sekä tietokartta. Tavoitteena on myös luoda ratkaisu käytännöllisiin ongelmiin case-yrityksessä. Tutkimus korostaa kyseiseen lanseerausprosessiin liittyviä tiedon siirrollisia seikkoja. Teoreettisesta näkökulmasta tutkimus keskittyy tutkimaan: prosessimallinnusta yrittäen ymmärtää yritysprosesseja, tietojohtamisen vaikutusta yrityksissä sekä muutosjohtamista yrityksissä. Empiirisestä näkökulmasta tutkimus muotoutuu erilaisten konstruktioiden ympärille liittyen prosessimallinnuksen ja tietokartan kehittämiseen. Niillä tutkitaan tutkimuksen ilmiötä sekä itse prosessia case-yrityksessä.

Tutkimus toteutettiin kolmitasoisena. Laadullisena tutkimuksena, tapaustutkimuksena sekä konstruktiiivisena tutkimuksena. Kolmitasoinen menetelmä loi tutkimukselle pääpiirteet, ympäristön ja kontekstin sekä toteutuskeinona. Tässä työssä tapaustutkimuksen tapaus ei ole itse case-yritys vaan sisäinen uusien tuotteiden lanseerausprosessi, case-yritys luo ympäristön ja kontekstin tutkimukselle. Case-yritys itsessään tuotantolaitos, joka on globaalin yrityksen tytäryhtiö.

Tutkimuksen tuloksena syntyi prosessimallinnus, joka kuvaa case-yrityksen sisäistä uusien tuotteiden lanseerausprosessia sekä tietokartta, joka kuvaa prosessimallinnuksen vastuita ja tehtäviä. Tutkimuksen tulokset kuvaavat vahvasti sisäisesti tärkeitä elementtejä liittyen lanseerausprosessiin yrityksissä. Tämä voidaan todeta, sillä tulokset osoittavat, että tärkeintä on tiedon liikkuminen sekä oikeiden ihmisten löytäminen prosessin jokaiseen tehtävään. Konstruktiiivinen tutkimusmetodi taas toi yhteen yrityksen työntekijät tuoden yhteen myös prosessimallinnuksen ja sitä tukevan tietokartan. Lisäksi, tietokartta luo prosessimallinnuksen käsittelyä tukevan työkalun sekä edistää tiedon ja tuntemuksen jakamista case-yrityksessä.

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“Failure is not an option.” Gene Kranz (2000, 11)

It took many hours, sleepless nights and even tears to get through the whole process from the topic ideation to the “finished product”. Over the course of the process, I have not only learned everything this thesis tells but a lot from myself. The environment where we work and study is very demanding and efficiency orientated, which takes a toll. And to be honest, I have never imagined to graduate with this level degree. But as can be seen, even unexpected dreams might come true.

Note to myself: things do not go always as planned, but it is OK, it is also OK to get stressed and frustrated and even angry but I should never forget the mercy towards myself.

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Be always proud of your accomplishments!

I feel honoured to graduate from LUT.

Helsinki, October 23rd, 2017

Camilla Kuntsi

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1 INTRODUCTION

This chapter is creating the base of the research at hand. The chapter is discussing the vital aspects around the research topic and the research itself. Background of the research topic is discussed at first to give the reader in-depth understanding of the grounds of this research and topic at hand. Next, the research gap, research questions, goals and objectives are set to create the ground for understanding the research. Furthermore, the chapter includes the literature review, theoretical framework, delimitations, key concepts and definitions, methodology and data collection as well as the structure. The literature review here in the beginning is creating understanding of the issues shown in the theoretical framework by showing what is already discussed in existing literature and research. Key concepts and definitions are also set here in the beginning to ease the reader's reading process and understanding of different issues refer to in this work. The company related facts and information are possessed from background discussions conducted at the case organisation.

1.1 Research background

Global competition and organisation internal collaboratives are crucial contemporary aspects on introduction of profitable and topical new products. New product development (NPD) is strongly argued to be one of the key issues to succeed, survive and keep up with the competition. It is also argued that companies must properly manage product strategy and product development as well as apply and manage its strategy to separate themselves from failure. NPD is risky process for companies. It can be costly both in time and money. It is also risky regarding high costs versus unknown return on investment. Still, companies must develop new products in order to stay alive. Many companies do product development internally, especially large-scale organisations and multinational organisations, since they have the resources. Regardless of what kind of NPD is conducted, the product development is not enough, the product needs to be launched fast and successfully to the market to generate actual sales, return on the investment and to fight against competition. Even so, it is identified that the launch is the costliest step in NPD process. The launch process can also be challenging as the chain between product development and actual launch can be long and complex due to widely used cross-functional NPD teams easily creating information gaps

and putting pressure on collaboration. (Kotler et al. 2005; Di Benedetto 1999; Olson et al. 2001; Brown & Eisenhardt 1995; Mcgarth 2000)

Brown & Eisenhardt (1995) have found three streams to determine successful product development (PD) based on the existing literature and researches: (1) product development as rational plan, (2) communication web, and (3) disciplined problem solving (further described later in this part). Each of the streams represent different era in PD research. The first stream is argued to rise from grounding research of Myers and Marquis from 1969, whereas the second stream evolved from work of Allen at MIT from 1971 and the third stream rising from 1980s from researches on Japanese PD practises.

It is important to identify that the existing literature does not clearly differentiate the new product development from internal new product development (as the chapter 1.2. shows). Still, regardless of what kind of NPD is conducted, the theory identifies strong implications of importance of well-planned actions and strategies related to NPD success. There are studies which have studied NPD success by relationships view by studying (1) the relationships of different success factors influencing to the overall successfulness, (2) relationships of cross-functional integration and information sharing and (3) relationships positively influencing one another; such as synergies of marketing and technical issues. (Calantone & Di Benedetto 1988; Song & Parry 1997b; Cooper & Kleinschmidt 1987). As Japanese PD practises were studied early on, it has been one of the dominant streams of research in field of PD to study Japanese industries from view point of the PD success factors (Song & Parry 1997a, 1997b). Also, product strategy is much represented in the current research on PD success by exploring the strong role of product strategy and the need for a strong market orientation (Cooper 1979, 1983).

Kotler et al. (2005, 585) see that the most important factors in successful NPD are “strong new product planning and a systematic new product development process”. In addition, they see that it is important to set up a company-wide strategy and commit needed resources (Kotler et al. 2005). The three streams by Brown & Eisenhardt (1995) continue to determine what is successful PD. The rational plan stream suggests that successful PD results from: (1)

careful planning in relation to targeted markets, (2) execution of the plan by adequate and well-coordinated cross-functional team with (3) appropriate support by the top-level management. The communication web stream argues that the more connected the project team and outsiders related to the development process are the more successful the PD will be. The problem-solving stream sees that the success relies in (1) efficient problem-solving ability within the PD project team, (2) the powerful leader, (3) the strong influence of top management and (4) within deep product vision. (Brown & Eisenhardt 1995)

Similar trends in research seem to largely occur in launch literature as in product development literature when the research mainly concentrates on success and failure cases and varies from strategical to tactical and managerial to relationship approaches (Chiu et al. 2006; Debruyne et al. 2002; Di Benedetto 1999; Matikainen et al. 2015; Day 2000). Di Benedetto (1999) describes that strategic decisions form around firm's skills and resources by concentrating on the importance of marketing and technical skills, but centralises in cross-functional integrations of the strategic aspects of the launch. The idea behind the cross-functional integration is that companies should form actual cross-functional teams from the employees and different managers to succeed with the strategy. Matikainen et al. (2015, 41) identify that "in addition to sensing markets, gathering customer and competitor knowledge, and responding to market information, firms benefit from paying explicit attention to relationships when launching new products". Moreover, they identify that from management perspective a relational approach should be used in firms together with the traditional relationship-oriented sales and marketing activities.

Chiu et al. (2006) have developed a model for evaluating new product launch strategies through different aspect inside the strategy (see Figure 1.). The model describes a hierarchical strategy system for evaluating a product launch strategy for "attaining product development success and promoting the overall performance" (Chiu et al. 2006, 1246). The model describes three aspects of new product launch strategies, the objectives of each strategy aspect and lastly the criteria to evaluate each strategy aspect. The most important strategy aspect in sake of this research is the organisation concern.

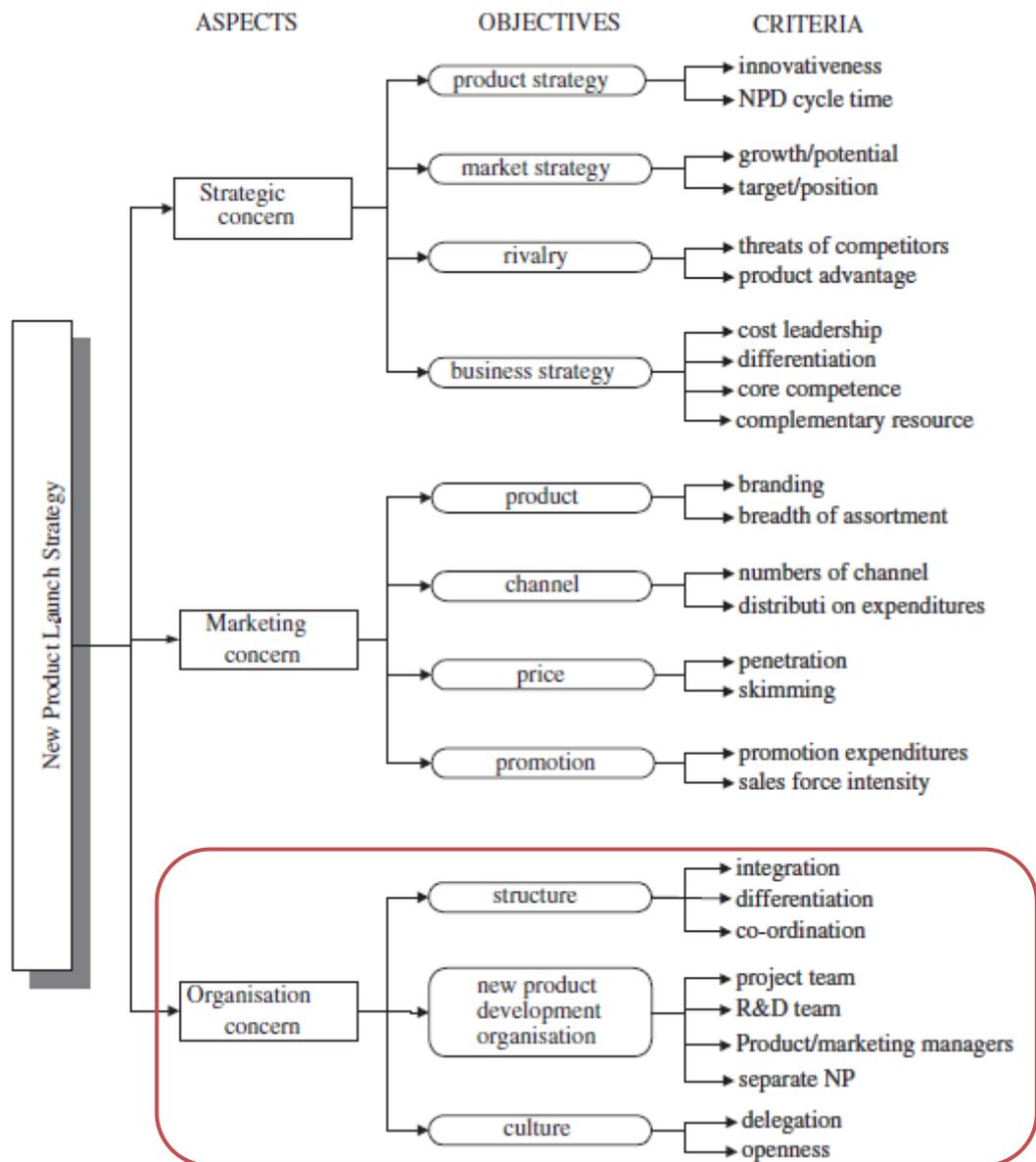


Figure 1. An evaluation model of new product launch strategy.

Source: Chiu et al. 2006.

In this research, the case organisation is a foreign subsidiary, a production facility, of a multinational technology company. It produces uninterruptible power supplies for business to business market in a global scale and holds a key role in the business operations in the whole global organization. The organisation has faced challenges in the after operations of its product development, more specifically with internal processes related information transfer in

internal launch operations. In the organisation, the internal new product launch process concerns information transfer between the producing subsidiary and the country offices in EMEA area. The information transfer in the case company excludes the actual marketing material or marketing related information or tangible aspects. Those are generated by a different part of the organisation and different part in the launch process. At the background, there is no process model available for describing the internal new product launch at the organisation. There are information cuts inside the process and different actors inside the process do not communicate together. Also, in many cases the end party does not receive the intended information. Moreover, there is lack of control systems and tools for following up the whole process.

By one definition, business process models (BPM) are real world facts shown in some structured and documented form (Kalpic et al. 2006). BPM then is seen as an important tool for Knowledge Management (KM), which enables converting of informal knowledge into formal knowledge and facilitates its outsourcing and sharing (Kalpic et al. (2006). Which then leads back to NPD. For example, according to Kotler et al. (2005, 582) NPD is “an act of innovation which entails a process of identifying, creating, and delivering new-product values or benefits that were not offered before in the marketplace”.

As NPD, product launch, BPM and KM are linked together so are processes naturally linked to process modelling. For example, as Davenport (1992) and Hammer & Champy (1993) describe, the five explained elements of business processes (BP) are affecting to the BPM methods as BPs are the ones modelled. There are also contradictory views of what are the differences and similarities of business process modelling and business process reengineering (BPR) (Hammer & Champy 1993; Davenport 1993; Lin et al. 2002). One view is that BPM is a vital part of the BPR lifecycle. BPM is argued to be a part of the BPR as for: capturing the existing processes and to represent new processes (Lin et al. 2002).

As the literature has shown, BP, BPR and BPM researches tend to overlap each of them and have identified each of them being part of each other's (for example, see Melão & Pidd 2000). In case of this thesis, the existing process at the case organisation was not modelled

even that there was an existing process invisibly at the background on how people worked with the internal launch process. Consequently, this thesis work is fundamentally from a process modelling perspective and is not seen as reengineering process. Browning et al. (2006) present that the reason behind process modelling should be to establish a model as a baseline to the extent as possible with ability for efficient maintenance and improvements.

This thesis work concentrates on developing (1) the process model with (2) a supportive information tool of the existing process in its ideal and usable form for the case company. Consequently, the developed model and tool are presenting something new to the organisation and its working environment. When representing something new, change management steps into a picture. It is largely addressed in literature that organisations often struggle with implementing change and majority of change efforts fail (e.g. Beer et al. 1990; Burnes 2011; Hammer & Champy 1993). Change management is also connected to KM, as Davenport (1997) justifies it with his research on KM projects by arguing that they are basically change management projects.

1.2 Research gap

As the previous chapter shows, product launch itself is left without much attention already in the product literature despite its importance, costs, and risks. Product launch is rather seen simply as obligatory part of the product development process and much of the literature on product launch is mainly concerning product development. Product launch literature has previously concentrated on launch process mainly from strategical and relationship view points by concentrating on marketing and market responsiveness, and company's competences by identifying importance of cross-functional project teams. Still, the launch literature does not include company's internal launch process but concentrated on the traditional product launch as a linear strategic process affected mainly by the external factors, such as competition. The relationship approach, is directing the research towards the internal launch process but stays at competence level leaving out the process what happens internally in companies, how the internal process should be formed and what affects the internal launch process has on the

launch success and performance. (Chiu et al. 2006; Debruyne et al. 2002; Di Benedetto 1999; Kotler et al. 2005; Matikainen et al. 2015; Day 2000, Cooper 1979, 1983).

Existing literature on both BP and BPM discusses information transfer in context of workflow in process understanding, development and modelling, and in context of workflow management. However, it is not linked to launch process. (Davenport 1992, Browning 2006). These factors create a need to understand the phenomenon of launch process in a context setting of internal new product launch in regard of information transfer via BPM. Also, the found factors create a need to understand what happens around the phenomenon of launch processes internally in companies.

BPM is most commonly associated with capturing existing processes in relation to activities or presenting new processes with an aim to evaluate the process performance and to evaluate organisation's business environment. Also, BPM is most commonly taking into consideration the external parties such as customers and suppliers rather than the internal applications (Melão & Pidd 2000; Lin et al. 2002; Luo & Tung 1999). Internal new product launch is a crucial part of product development processes and marketing strategy and its importance is mostly associated with commercialization, innovation and management rather than what happens internally in organisations in regard of the new product launch (Kotler et al. 2005; Beard & Easingwood 1996; Gatignon et al. 2016).

Moreover, process modelling theory commonly concentrates on models related to information technology (IT) or computer science. The modelling theory includes only small subset discussing product development processes and lacks product launch literature more specifically. This is even that product launch is evidently a part of product development process. (Browning et al. 2006; Vondrak 2007; O'Donovan et al. 2005).

1.3 Research questions, goals, and objectives

As the examples of existing knowledge and research of the topic of this research discussed in the previous chapter reveal, there is a research gap found with justifications. The research

questions are set to study the found research gap and to provide solution to a practical problem of the case organisation (further discussed in chapter 3.1.) and the case (the internal new product launch process) itself, which is described more in detailed in part 1.8. Firstly, the research question setting is raising from the BPM literature relying much on the elements rising from the framework provided by Luo & Tung (1999), which is further discussed in chapter 2.1.3. Secondly, the research question setting, goals and objectives find justification from theory as is it is identified that before processes can be captured, they need to be understood. Understanding processes usually involves persons or teams who work closely with the processes at hand and those with expert knowledge about the process. (Grandoni & Soda 199 in Scarbrough 2003; Di Benedetto 1999; Davenport 1992; Georgakopoulos et al. 1995)

The research questions 1-3 find its background from various literatures. The literature on new product development influenced by the success factors of NPD creates the grounds for the questions' importance. For example, Sivadas et al (2000, 3) state that “many companies fail to bridge the barriers between functional areas and information critical to a product's formation and function gets lost. Besides communication difficulties, lack of familiarity with another units' procedures and personnel can impede efficiency leaving some tasks undone and others redone”. In addition, research questions 1-3 have background in knowledge management literature in regard of flow of information and involving knowledge intensive persons. For example, Van Wijik et al. (2008) identify organisational knowledge transfer, based on their research, as a process in which organizational actors receive, exchange and are influenced by the experience and knowledge of others. Browning et al. (2005) also argue that information can be seen as the vascular system of process models to function.

Research questions 1 & 2 find support also from business process and business process modelling literature from the perspectives who to involve to the development process and importance of knowledge sharing. In addition to the realisation of the previous paragraph on understanding processes, for example Browning et al. (2005) points that it is important to involve those workers to the process and its development who currently are working with the process in order to capture most reliable knowledge. The research question 3 includes the timing, activity dependencies and hierarchy of information within the process under the

information flow. The research question 3 finds support also from workflow management literature. Workflow management deals with the actors and activities (tasks) of the process and is not only manage but also to help to understand what tasks should be conducted by whom. Once the actors are found workflow management's task is to assure that the flow, usually flow of information, happens as it should by the process and process model. (Georgakopoulos et al. 1995; Reijers 2003).

Lastly, the research question 4 is raising from the business process literature from the process change view point related to change management literature. Organisational leaders are seen as the key for successful change processes. People are naturally resistant to change and the complexity of the change process with people is important to be addressed in order to be prepared with change supportive strategies. The organisational leaders need to be able to steer the change, lead by an example and take responsibility of the change. (Conner, 1992 in Gilley et al. 2008; Pryor et al. 2008; Gill 2002; Sikdar & Payyazhi 2014; Militaru & Zanfir 2016) Furthermore, the case company has influences on research questions setting as this thesis research is highly for managerial purposes and set to provide solution for a problem in the case company. However, the purpose is to provide information around the topic from the company internal perspective, which not as researched as the chapter 1.2. shows.

Main research question: How to support internal new product launch process and its information transfer by using business process modelling?

Sub question 1: What information needs to be transferred in the process?

Sub question 2: Who are the actors in the process?

Sub question 3: What should be the information flow in the process?

Sub question 4: How to commit the process actors to the new process model?

The organisation has identified, that there is need not only for developing the process model and creating new process description, but also to determine the tasks and responsibilities inside the process to create platform and tool for information and knowledge sharing inside the organisation. This view is supported by the framework of Luo & Tung (1999), which is

further discussed on part 2.1.3. The research is targeted to work with the both issues. It means that this research is highly from managerial perspective. Moreover, the research targets mostly management implications with real life usability in real life business environment. Still, there are scientific implications as there is a clear research gap with lack of existing knowledge of internal new product launch especially from the process viewpoint (further discussed in chapter 1.2).

The goal is to develop a model of an existing new product launch process inside the case organisation by creating process model and process information map. The goal is also to create a solution for the practical problems at the case organisation: missing information flow creating information cuts, misunderstandings, and undone tasks as well as uncommunication between process participants (further discussed in chapter 3.2.). The objective is to create better information flow inside the process by: showing everyone each other's tasks and how they influence one another, creating links between the process participants to prevent information gaps and by determining all responsibilities within the process. Also, the target is to give the company keys to understand the implementation process of the developed models and map by taking into consideration change management aspects.

1.4 Literature review

The literature review is giving the broader insights to the research topic and the theoretical framework (further discussed in the next chapter). The main theoretical areas of this research are introduced in this chapter to draw the most important issues around the theories but to also keep in mind the organisational context of this research. The point of this chapter is to draw together the relevant literature around the topic, which is then discussed in depth way in the theory section (see chapter 2).

1.4.1 Elements of business processes and process modelling

Process thinking can be seen to be emerged from automotive industry first from Henry Ford's thoughts of standardised manufacturing and mass production from early 1900s which then continued by the thoughts of Kiichiro Toyoda, Taiichi Ohno, and others at Toyota in

the 1930. Aguilar-Savén (2004) argue that the business process and importance of them have been first mentioned by Theodore Levitt in 1960 but have raised great importance just in recent decades. It is argued that today's competitive demands on businesses need efficiency and controllability, which means different level processes and skilled management of these processes (Lillrank 2002). It is also seen that today's business processes are dynamic due to a dynamic, ever changing business environment (Vasilecas et al. 2016). Davenport (1992) states that there are two different focuses in companies: process focus and product focus. Davenport (1992) explains that process focus in an organisation concentrates on how the work is done versus the product focus which is concentrating on what is done.

Business processes can be defined by various ways, a clear single definition does not exist (as the chapter 1.7. shows). Davenport (1992) and Hammer & Champy (1993) have identified five elements of business processes: (1) process has always its customers, (2) it consists from activities, (3) it aims to create value to its customers, (4) the activities are done by the actors, (5) it involves multiple organisation's units responsible of the whole process. Melão & Pidd (2000) have identified four perspectives of business processes: (1) deterministic machines, (2) complex dynamic systems, (3) interacting feedback loops and (4) social constructs. First two perspectives are very traditional, hierarchical, mechanistic and technology orientated whereas the last two perspectives are more subjective, humane orientated and takes into account different interactions and underlying assumptions. It can be argued that even that the different perspectives are not solely existing and have linkages to one another the theoretical shift shows as the business world has developed from objectivity and mechanistic hierarchy to subjectivity and humane web. (Melão & Pidd 2000)

As Davenport (1992) and Hammer & Champy (1993) describe, the five elements (described earlier in the text) of BPs are affecting to the BPM methods as business processes are the ones modelled. It is said that BPs are the core of BPM (Melão & Pidd 2000). Kalpic et al. (2006) describe that process models are real world facts shown in some structured and documented form. However, they state that the real-world situation is perfect only as itself and the model is an interpretation of it (Kalpic et al. 2006). Based on Li et al.'s (2002) research

on BPM methods, BPM consist from eight components: activity, resource, behaviour, event, information, relation, agent and entity.

Business process modelling literature is much linked to business process re-engineering literature and concentrates largely on selecting modelling methods and describing modelling techniques (Davenport 1992; Melão & Pidd 2000; Aguilar-Savén 2004). Melão & Pidd (2000) argue that business process re-engineering has evolved the BPM as a separate field. Especially, Melão's & Pidd's (2000) findings of existing research on BPM emphasises that the vast number of research is discussing modelling techniques. From their findings, it is evident that BPM literature is also built around IT (Melão & Pidd 2000). Aguilar-Savén (2004) highlights the today's popularity of BPM and argues that different purposes of process models indeed require different techniques for the modelling purposes. As it is already identified in chapter 1.1., nowadays businesses are very closely connected to competition and competitive business environment, they must become more efficient and reduce costs, and develop their offering ever further. Business optimising, information systems and applications towards the ever-changing business process are needed. It is said that workflow management is enabling all of this (Sikdar & Payyazhi 2014; Georgakopoulos et al. 1995; Van der Aalst 1998).

Georgakopoulos et al. (1995, 119) describe that workflow management is “providing methodologies and software to support business process modelling to capture business processes as workflow specifications”. Van der Aalst (1998, 21) continue that “workflow management promises a new solution to an age-old problem: controlling, monitoring, optimizing and supporting business processes.” When new business processes emerge or the old ones are changed design of workflows, and in result managing workflows, changes and need amending. However, the change can be tricky due to mental models of the people, who have worked with the existing systems and processes (Sikdar & Payyazhi 2014).

1.4.2 Knowledge management and organisations

It can be said that KM literature varies with different perspectives and is a wide research field but weather it concerns innovation, organisational competitive edge or people as

knowledge assets, KM literature can be seen consistently returning to the importance of processing, dividing, storing, and creating knowledge. Already in 90s (1994) Nonaka emphasised the importance of the new era of knowledge intensive society. Nonaka (1994) recognised the importance of knowledge for large innovation organisation weather it would be “technical innovation, product innovation, or strategic, or organisational innovation” (Nonaka 1994, 14). From early on Nonaka (1994) also stated that organisations should not be examined from the perspective of how it creates information and knowledge but from the perspective of how it processes them. However, he simultaneously states that organisations dealing with changing business environments should not only efficiently process the information to create information and knowledge (Nonaka 1994).

In order to understand knowledge management, concept of knowledge is identified. Four types of knowledge can be identified: explicit knowledge (know what), tacit knowledge (know how), knowledge of individuals (know who) and understanding of the context (know why) (Scarborough 2003). On the other hand, it is argued that knowledge does not differentiate much from information at least in regards of tacit knowledge. It is examined that knowledge is subjective and personal information hold by individuals on one’s mental models, experiences etc. related to facts, procedures, concepts, interpretations, ideas, observations, and judgments. (Alavi & Leidner 1999b)

It is argued that while new knowledge is developed by individuals, organisations play a critical role in articulating and strengthening it. Organisational knowledge is also created through a continuous dialogue between tacit and explicit knowledge. (Nonaka 1994) Transferring the organisational knowledge is seen as a process in which organisational teams, units, or organizations receive, exchange and are influenced by the experience and knowledge of others. (Van Wijk et al. 2008) According to Van Wijk et al. (2008), much research on KM has concentrated on antecedents and consequences when trying to understand how firms organise and benefit from knowledge transfer.

Browning et al (2005) see an obstacle with turning information into the right knowledge and turning knowledge into the right information. To take out this obstacle and to manage and

share knowledge organisations are developing information systems designed specifically for these tasks, which are referred as Knowledge Management Systems (KMS) (Alavi & Leidner 1999b). On the other hand, as Brown and Duguid (1991) note, knowledge will not necessarily circulate freely within the organisation just because the technology to supporting it exists (Alavi & Leidner 1999b). It is argued that such KMS' are enabling organisations to be flexible and respond more quickly to changing market conditions, and the ability to be more innovative as well as improving decision making and productivity (Stata, 1997; Harris, 1996).

1.4.3 Change management characteristics

It is noted that today's organisational change is different from the times of early emerged research on topic. The change is seen as constant process, which requires fast reactions, innovativeness, foreseeing the unexpected and skilled leadership (Pryor et al. 2008 & Rune 2005). Change management and organisational change are seen to ground from Kurt Lewin's three stage theory of unfreeze, change, refreeze from 1947. After Lewin's theory can be seen multiple other "grounding" theories emerged in the literature: Jick's ten step approach from 1991, Kotter's eight step model from 1995. Mento et al. (2002) can be considered as a recent approach by showcasing a twelve-step model grounding from "lessons" learned from the older grounding models to be used when implementing change. Other example of recent studies is Vasilecas et al. from 2016 who found four common concepts to define the elements enabling BP to integrate to the change environment: dynamicity, flexibility, agility and adaptability.

Mento et al. (2002, 46) explain Lewin's three stage theory that "the model focuses on the leader's role in creating urgency for the change, designing and communicating the vision, leading the change, measuring the progress of change along several dimensions, and institutionalising the change. As Cummings et al. (2016) presents, Kurt Lewin's work is the seen as the first ever philosophy of change management in humane systems with much praising. But the three steps theory has faced criticism over simplifying he change process too much (Cummings et al. 2016). Cummings et al. (2016) themselves critic that Lewin's work is not applied as such in reality as it is only the ground for other emerged researches and theories

of change management. They also point out that the most cited work from Lewin's is not actually his own writing but is edited writing of others four years later of Lewin's death. (Cummings et al. 2016)

Kotter's (1995) established an eight-step model on how to transform organisations based on 100 organisations varying in size type of industries. The eight-step model consist from different phases of change: (1) Creating understanding of urgency to change, (2) powerful team to lead the change, (3) vision to direct the change, (4) communicating the vision throughout the organisation, (5) empowering others towards the vision, (6) planning and executing of short-term wins, (7) investing in change by consolidating change efforts, (8) incorporating new approaches into the organisation. These eight steps are seen to create a circled process of continuous change. (Kotter, 1995)

In recent studies, the importance of personnel in organisational change success has been highlighted (Sikdar & Payyazhi 2014; Militaru & Zafir 2016). Sikdar & Payyazhi (2014) see change management as an alignment system of different operations within an organisation by aligning tasks and different activities of processes to each other, which results of aligning staff together as the activities are most commonly conducted by the people. They emphasise also that the change management success relies in different levels of management, each having their own role in the organisation in strategical, operational and team level. Managerial importance is also pointed out by other researches, and simultaneously various researches have pointed out the vast number of failing change implementation (Peters & Waterman 1982; Gilley et al. 2008; Van de Ven & Sun 2011; Haleem 2015). Gilley et al. (2008) found out that the main reason for the change processes to fail was the ineffective approach by the leaders whereas Van de Ven & Sun (2011) pointed out the importance of change agents when steering the change implementation to right direction. Even that many researches highlight the failing change efforts, there is also criticism questioning do so many change efforts really fail (Todnem 2005 & Huges 2011). Huges' (2011, 451) review of existing researches of change failure "highlights the absence of valid and reliable empirical evidence in support of the espoused 70 per cent failure rate".

1.5 Theoretical framework

As the previous chapter has discussed the most relevant theoretical areas of this thesis research, the Figure 2. is illustrating their relevance and relationships. The most important theories are illustrated in the boxes and the most important concepts within the theories are shown under each box. The theories illustrated in the boxes are most important research wise to understand the phenomenon and the background, seeing the research gap, understanding the subject research problem, and to understand the results of the research. It can be said that each of the theories are representing “a piece of a puzzle” in forming the outcome of this study, which are linked together by the relationships of them, shown in the Figure 2. The relevance and importance of the theories and concepts rises from the phenomenon and the research problem at the case example organisation. The research phenomenon of internal new product launch within this research context is including all the theories and concepts represented in the Figure 2.

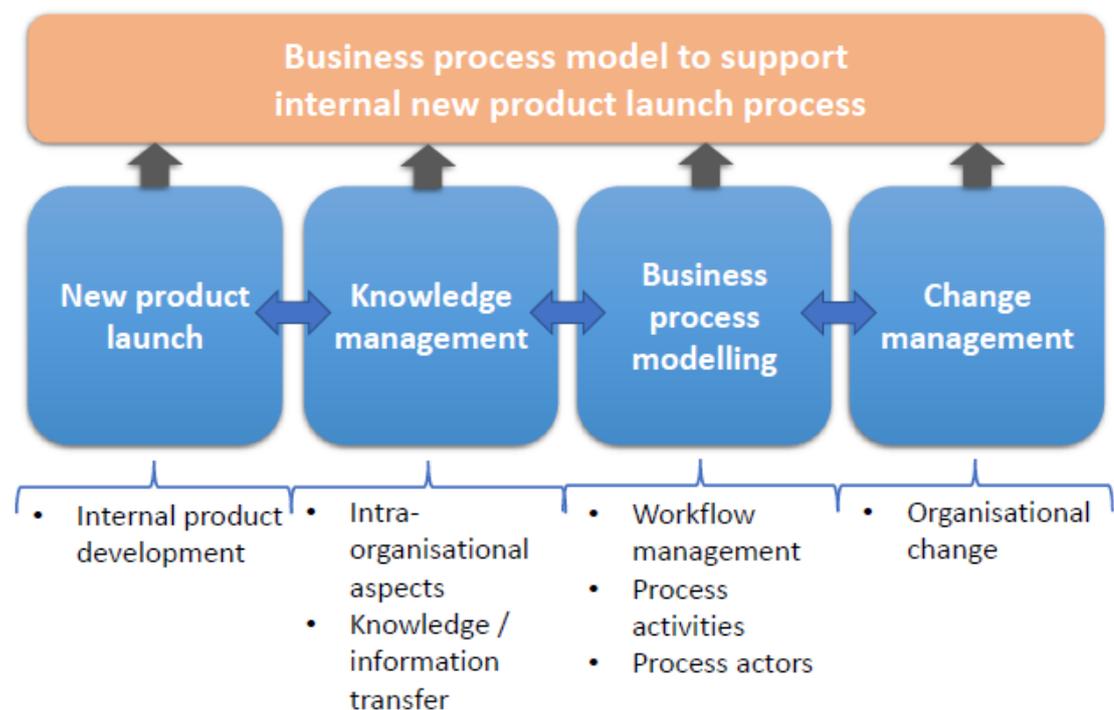


Figure 2. Theoretical framework.

1.6 Research delimitations

This thesis work does not question or research the different existing models and techniques for BPM purposes as it is not to aim or the purpose of this work to evaluate them but to create a functioning process model for the company's real-life usage. The model is put together by using the known techniques of the company, combining flow chart and action diagram. Separate responsibility map is developed to support the action diagram element of the model. The model is based on the interviews and discussions conducted for the project team (and other project team defined persons inside the EMEA level organisation) and a framework for BPM methods by Luo and Tung (1999) on the background. The research out rules the case company's global organisation and concentrates on the subsidiary at hand. The global organisation is affected by the success of the launch process at this particular subsidiary as it is a producing organisation and as the items are sold in a global scale. But out ruling the global organisation is still realistic way to conduct the research due to the resources at hand.

The earlier mentioned tool for following up and controlling the developed process model is left out from this thesis work, because it needs to be developed after the thesis work has resulted the process model and after the new model has been tested, as is strongly suggested in the constructive research methods literature (Järvinen, 2001; Kasanen et al., 1993). Also from KM perspective the IT supported tool would take the focus of the research. As Davenport (1998) argues there are two sides of KM the knowledge as an "it", one side separated from people regarding storing and documenting the knowledge in various different systems in memos, reports etc. and the other side highly involving people who create and use the knowledge. It can be argued with justifications from the goals of this work that the people aspects are more important than the knowledge "it" aspects to reach the decider goals, which has affected to limiting the work.

In addition, the schedule for conducting this thesis project for the case company is tight, which out rules any possibilities for expanding the topic or the project to testing and implementation phases of the new process model. This is even that testing and implementation

processes are seen parts of constructive researches (Kasanen et al. 1993). However, Sikdar and Payyazhi state that “business process implementation has been primarily seen as a redesign of the workflow with the consequent organizational change assumed to be taking place automatically” (2014, 971). Sikdar and Payyazhi (2014) also found out that BPM implementation is much about technical aspects of BP or WFM. Which explains that as implementation literature is connected to various different literatures, it creates whole other unit of research. It is valid to concluded that the tool as a control system of the new process model is needed to be developed as a separate project. Also, the implementation literature seems to out rule commitment process and seems to be lacking simultaneously the aspect of change management by creating a need to continue further researching the change management aspects.

1.7 Key concepts and definitions

This chapter describes the key concepts and definitions relevant to the research at hand and in order to ease the reading experience. The chapter also provides the abbreviations is applied.

Internal new product development (NPD):

The existing literature does not clearly differentiate NPD from internal new product development. Sivadas et al. (2000) define internal new product development simply as the product development efforts conducted internally in organisations. Kotler et. al (2005) discuss NPD together with product innovation. They state that “new-product development is an act of innovation which entails a process of identifying, creating, and delivering new-product values or benefits that were not offered before in the marketplace” (Kotler et al. 2005, 582). Kotler et al. (2005) also classify NPD as an internal process of company’s own research and development department (R&D).

New product launch:

Kotler et al. (2005) and Di Benedetto (1999) represent new product launch much as a part of new product development. Kotler et al. (2005) describe that new product launch it as the

aimed result of the new product development. Hultink et al. (1997, in Chiu et al. 2006) describe product launch components similar to marketing plan: target markets recognition, confirming marketing mix roles, predicting financial outcomes and controlling. The study by Matikainen et al. “provides new empirical evidence on the importance of a relational perspective in the context of new product launches (NPL). More specifically, the results show that firms' relationship orientation (RO), positively relates to customer acceptance (CA) and NPL success” (2015, 41).

Knowledge management (KM):

KM is tricky to define with single definition as it is multidisciplinary research field covering wide range of issues. Dalkir & Liebowitz (2011, 6) argue that “at one extreme, KM encompasses everything to do with knowledge. At the other extreme, it is narrowly defined as an information technology system that dispenses organizational know-how”. KM is also seen as capturing, creating, and distributing organisation knowledge, both explicit and tacit natures. KM is also seen to concern distribution of knowledge through technology systems or through people centric social interactions and relationships. (Alvesson & Kärreman 2001)

Knowledge/ information transfer:

Knowledge and information are seen as parallel concepts and so is the transferring of them in organisational context, which is why they are discussed here together. For example, Vance (1997, in Alavi & Leidner 1999b, 5) “defines information as data interpreted into a meaningful framework whereas knowledge is information that has been authenticated and thought to be true.” Information transfer occurs in many cases through information systems (Alavi & Leidner 1999b) whereas knowledge transfer usually occurs in social contexts (Tsai 2001). “Organizational knowledge transfer refers to the process through which organizational actors – teams, units, or organizations– exchange, receive and are influenced by the experience and knowledge of others” (Argote et al. 2000, in Van Wijik et al. 2008, 832). Knowledge transfer is also seen as important factor in organisational learning (Tsai 2001).

Business process (BP):

BP (also referred as process) is not clearly defined in literature and as a single concept it stays quite vague, and still there are many definitions available. Traditionally BPs are seen as a way how work is done within companies or organisations creating value to customer or stakeholders, internal and external. Newer way to understand business processes is by social constructs and involvement of humans with subjective understanding of the elements of the process as well as the interpretation of it. (Melão & Pidd 2000). Hammer (2001, in Browning et al. 2006) describes process as an ordered group of activities in relation to one another or as a network of relationships and engagement, which create value to the organisation and its customers. Davenport (1992) sees processes as description and order of a specific work or task, within specific time and place with structure for action.

Business process modelling (BPM):

Luo and Tung (1999, 312) refer to business process modelling as “the techniques for characterizing and analysing business processes”. Process models then “are typically activity network models” (Browning et al. 2006, 105). Aguilar-Savén (2004, 129) states that “BPM enables a common understanding and analysis of business processes”.

Workflow management (WFM):

WFM literature is not clearly defined under one stream understanding of what features it consists from. WFM can be mixes with BPM and some literature discusses workflow processes together with business processes (Georgakopoulos et al. 1995; Reijers 2003). As Georgakopoulos et al. (1995, 122) describe, “under the umbrella of the term “workflow”, which is often used casually, people may be referring to a business process, specification of a process, software that implements and automates a process, or software that simply supports the coordination and collaboration of people that implement a process”.

Process activities (discussed also as tasks):

Process activities are important to define and understand business processes. Activities represent tasks, functions or operations in a process, which are conducted by humans of computer systems. (Lin et al. 2002)

Process actors (discussed also as process participants):

Caetano & Tribolet (2006) define actors as individuals or teams of individuals who perform certain activities in a process based on their competences. Actors can be seen also simply as the responsible persons of certain activity or part of workflow (Georgakopoulos et al. 1995).

Change management (CM):

“Change is an ongoing and never-ending process of organizational life. Although we would like to explain, predict, and control the process, organizational change often does not unfold in expected ways” (Burke 2009 in Van de Ven & Sun 2011, 58). Managing change is seen highly connected to people as for example change management in organisations is led by managers in context of the employees in the change process (Militaru & Zanfir 2016). Change management is also seen to occur in making organisational change (Sikdar & Pay-yazhi 2014).

Organisational change:

Organisational change is much linked to change management. Organisational change can be triggered both internally and externally, intentionally and unintentionally. Organisational change includes also incremental and radical changes, which involve both information systems and humans. It is seen often the case that organisational change involves information systems but tend to delimit human factors of the change. (Pryor et al. 2008, Sikdar & Pay-yazhi 2014)

1.8 Methodology choices and data collection

This thesis is an applied research and the used research methods are constructive research method and case study research method, which belong under qualitative research. First it needs to be distinguished what is the case in this research to avoid misunderstandings. The research case is the internal launch process and not the organisation itself, the organisation is creating the research environment and is the context for the case. The constructive research method is used in developing the results for both goals of this study: business process model and process information map.

To collect research data, cross-functional team from the case organisation is formed. The cross-functional team consists from the presumable process actors by establishing freely formed discussions throughout the whole study. More detailed, the case study is conducted through three ways for data collection: (1) organisation internal open discussions conducted for the team members and other vital process participants, (2) organisation external open discussion conducted for external knowledge intensive persons representing the “customers” of the process, (3) research team discussions held after each developed construction till the final version to receive feedback and raise discussion. These views are supported by launch literature, process literature, process modelling literature and research methodology literature.

Constructive method is seen to fulfil the requirements of applied research as the method aims for producing new knowledge even that the aim is to improve something or create something novel (Kasanen et al. 1993, Oyegoke 2011). Constructive research method is seen much linked to case study research method and is seen beneficial in case study researches (Labro & Tuomela 2003; Kasanen et al 1993). Theory should be studied and paid careful attention at first hand with constructive method in order to carefully determine the practical problems at the case organisation and to provide feasible solution to the problem and too (Kasanen et al. 1993, Labro & Tuomela 2003). (For expanded and deeper insights of the research outline, see chapter 3.)

As Di Benedetto (1999) argues that having cross-functional teams making key marketing and manufacturing decisions, and getting logistics involved early in planning, were strategic activities that were strongly related to successful launches. Browning et al. (2006) also pointed that to get most reliable information and most usable process, the knowledge intensive personnel should be used to work with the process and when developing one. These factors in mind, the case company aimed to developed the model with the knowledge intensive persons themselves and with the help of an “outsider”.

The organisation internal open discussions are held as background discussions inside the example organisation for the project team members who consist from persons acting in the current process and their departments. More persons and departments are included to the open discussions, when they are seen as vital process participants even that they are not included to the actual project team at the example organisation. By the background discussions the base of the current situation and the logic of the process inside the organisation are identified. More discussions are conducted with the projects team in order to understand all the responsibilities inside the process and how to define them. Also, many discussions are held during the development of the constructions on the way to the final version.

The organisation external discussions are conducted for key people at the country offices inside the global organisation of the case company. This is to understand the problems and success stories of the current process also from their view points, since they act as the “customer” in the process. Simultaneously the country office discussions are conducted for the key people taking into account the used information systems inside the global company. In order to overcome the goals of this study there are several constructions conducted to showcase the building process and to combine the data collection. In addition, to complement the visual process description a responsibilities map is created to combine all the sought outcome of this research.

For further justification and deeper insights of the methodologies and data collection of the research, please see chapter 3.

1.9 Structure of the paper

Introduction chapter starts the research by describing the research background, research gap and research questions with goals and objectives of the research (chapters 1.1.-1.3.). Then the introduction chapter continues to discuss about the literature review by examining the theoretical framework of the research, which is then illustrated in the following chapter as a Figure 2. (chapters 1.4. & 1.5.). The introduction chapter concludes with discussing research

delimitations, key concepts and definitions, methodology choices and data collection plan (preliminary) and structure of the paper (chapters 1.6.-1.9.).

Second chapter concentrates on theoretical findings of the research by continuing from the literature review (chapter 1.4.) by examining and describing the most important theoretical findings around business process and process modelling, knowledge management and change management (chapters 2.1.-2.3.). The paper continues with discussing the research outline including case analysis, research strategy and methods, data collection and reliability, validity, and ethics (chapters 3.1.-3.5.).

The empirical analysis and findings are covered in chapters four and five by first covering process modelling and then continuing to the supportive tool complementing the process model (chapters 4.1.-5.2.). The empirical part of the research continues in chapter six, which covers discussion and conclusions by including key findings, critical assessment, application of the study, limitations and future research areas. The paper concludes in chapter seven with a summary.

2 THEORETICAL FINDINGS

This chapter describes the theory and literature meaningful for the sake of this research. The literature within the theoretical areas are limited to the most relevant in regard of this research to continue from the literature review in chapter 1.4. The discussed theories and literature are to provide background information for each research question and to correspond to the theoretical framework of the research. In addition, this chapter is targeted to give the keys to conduct the actual research and analyse the results from the perspective of the methodological choices for conducting this research.

2.1 Understanding business process modelling

Melão, N. & Pidd, M. (2000) state that before understanding BPM one needs to understand BP. The BPM view is more common nowadays to analyse and improve BP inside organisations. In this chapter, first the important elements of business processes are identified important to this research, which then continues to aspects of understanding business process modelling. The chapter covers also an example BPM framework used as a grounding example for this research and also examines the importance of workflow management in relation to BPM.

2.1.1 Business process thinking

Lillrank (2002) categorises processes in three ways: standard, routine and nonroutine processes. The standard processes are the most basic ones, which are identical no matter how many times they are repeated. The routine processes are rather similar to the basic processes but even that repetition happens, small things may change, but which do not affect the outcome or change the actual overall task. The non-routine processes are those, which cannot be standardised or repeated similar way each time as non-routine processes are designed to handle unpredictable situations. (Lillrank 2002)

Melão & Pidd (2000) have created a framework to understand the different views of BPs in order to model them. The framework identifies the natures of the BPs under four themes

illustrated in Figure 3. Even that the Figure 3. differentiated the natures by making generalizations to illustrate the differences of the themes, Melão & Pidd (2000) state that it is vital to understand that the themes do not work solely in defining BPs but overlap each other.

In the Figure 3., the two illustrations on the top (BP as deterministic machines & BP as complex dynamic systems) are representations of BPs, which are linear, organised and rather fixed without much interference of people even that people are the actors within the processes and largely conducting the tasks. The arrows represent the flow of information between tasks or actors. With the two illustrations on the top, the key is to optimise the resources and efficiency the BP as deterministic machines being the simplest illustration of a process and BP as complex dynamic systems being the second step towards more complex process as on it the people are to interact with one another. (Melão & Pidd 2000)

The Figure 3. continues with even more complex processes with the bottom two illustrations (BP as interacting feedback loops & BP as social constructs). The illustration of BP as interacting feedback loops brings in more the effect of people to the flow and shape of the process by indicating that each shape and arrow include people's effect. Within the process, people take in the information, process, discuss and shape the information to put out the best seen output. BP as a social construct is the most complex representation of a process as the view takes into account people with different agendas, perspectives, mental models etc, which are seen to interfere and effect highly to the process output. The layered coloured circles represent the underlying issues of people, which cannot be seen from the outside. The shapes represent different people with their underlying issues and the arrows represent interaction. The shapes outside the circle represent the control system by the organisation, who are seen to control the other ways complex process. (Melão & Pidd 2000)

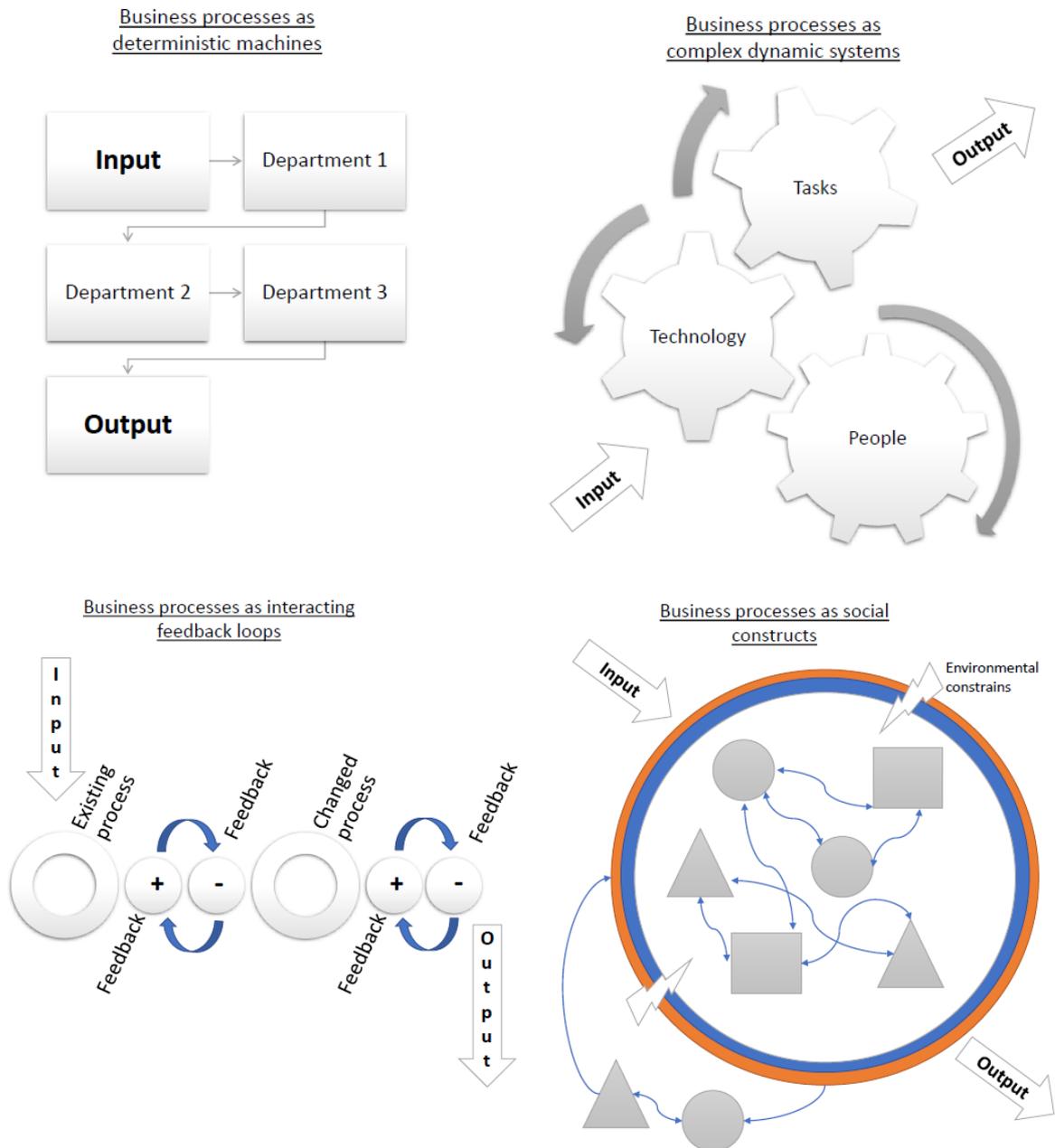


Figure 3. Four perspectives of business processes, modified from source.

Source: Melão & Pidd (2000)

Davenport (1992) describes that, for organisations process thinking implies improvements on how the work is done and moving away from the thinking purely of product or service offerings. Still, in order organisations to be successful, they must be able to provide quality products and services with the efficient and effective processes to support them. To build

successful processes, Davenport (1992) highlights the importance of process owners who are responsible for the design and execution of the processes. However, Davenport (1992) also points out that finding suitable process owners has its obstacles as the processes seldom follow the pre-defined structures and might be needed to be going through a radical process change. But he argues that it can be achieved if the organisation does not intervene too much and allows the process to go over boundaries and the process owners to change the processes to better fit the needs and organisational structure. (Davenport 1992)

Caetano & Tribolet (2006) argue that finding suitable actors for performing the tasks within a process is seen as a common problem in organisations. The actors need to possess the needed competences and skills in order to be beneficial for the process to create a business value. In order organisations to be able to link the actors to an activity, organisations need to map the skills and competences of each actor. (Caetano & Tribolet 2006) Pajerek (2000) continues that humane elements are growing its importance in processes and for example engineering processes might need to make shift from their focus to give room for the humans in the processes to enable effective process improvements. Pajerek (2000) argues that if the humane element is taken into account in processes, the organisations can plan better for the change of business processes. To support this view, Pajerek (2000) argues that many processes are planned to work, when things go according to plan but if any faults happen the system does not function. It indicates that in business processes in many cases they are not prepared for the worst-case scenarios and the recovery might be challenging. (Pajerek 2000)

2.1.2 Business process modelling

To expand from the literature review (chapter 1.4.1) it can be concluded that commonly modelling theory concentrates on models related to IT or computer science, has only small subset discussing product development processes and lacks product launch literature more specifically even that product launch is evidently a part of product development process (Browning et al. 2006; Vondrak 2007; O'Donovan et al. 2005; Aguilar-Savén 2004).

Lin et al. (2002) identify that BPM methods are set to model the existing process and new process model even that is commonly believed that BPM is describing the process from

scratch. Based on the various different BP modelling methods Lin et al. (2002) have created a generic structure for BPM, which includes eight different aspects: activity, resource, behaviour, event, information, relation, agent and entity. Table 1. describes more carefully what is meant by each of the aspects by giving examples. The generic structure by Lin et al. (2002) can be taken as the core on how to understand BPM thought what the actual models consist from.

Activity	In other words tasks to perform along the process, for example order management, capacity planning, supplier management
Resource	Means enabling different process functions, for example materials, people, in coming orders
Behaviour	In other words action, which occurs with each decision making step, for example capacity planning, controlling order management
Event	Occurs with each activity from the start of the process until the ends, for example when order arrives
Information	Can be seen also as data and tangible or intangible information, for example orders and technical data sheets
Relation	In other words relationships needed for the process to functions, for example between business entities or actors and information
Agent	In other words actors responsible or particular tasks along the process, for example people and software
Entity	In other words self standing parts within the process holding different properties, for example orders, data

Table 1. Eight aspects of business process models, modified from source.

Source: Lin et al. (2002)

Browning et al. (2005) concentrate more on what purposes process models have and how they may differ. Browning et al (2005) see that process models can be descriptive, prescriptive or mixture of both. Process models are seen as descriptive when they try to capture tacit knowledge and concentrate on how the work is actually done. Prescriptive process models then concentrate on what tasks to do within the process and may also instruct how to do the tasks. (Browning et al. 2005) Product development (PD) can be seen as an example of the nature of process models being both descriptive and prescriptive. Browning et al (2005, 115)

argue that “The PD environment is dynamic enough that no process model will become or remain complete and accurate in all aspects.”

Browning et al. (2005) highlight the importance of activity dependencies and information flow within the process models as they are important part for executing the process itself. Continuing with PD example, Browning et al (2005) strongly argue that activities in a process or in a process model need information and in many cases, multiple other inputs to have the desired output. For example, one way finding out what is the information and other inputs is to discuss with the actors of each activity as then more multi-formed is the answer. For example, with PD processes the activities include collection, creation, interpretation, transformation and transferring information. To conclude, each activity needs and produces information and information can be seen as the vascular system of process models to function. (Browning et al. 2005) However, Browning et al (2005) argue that many process models fails in catching the whole chain of the information flow, when the model is established.

Becker et al. (2000) argue that there are various risks and challenges with process modelling. Even that the point of process modelling is to ease the planning and controlling of a process it may make them more complex especially with design of the model (Becker et al. 2000). Moreover, there is a financial and resource based risk as the modelling requires people as resources and might need establishment of new software. Also, the time span of such project as developing a process model is usually long and the return on investment is hard to be calculated. There is also a risk that the process modellers tend to model something that does not serve the purpose of a communication platform, which is meant for all personnel to use and rather concentrate on modelling for niche audiences. (Becker 2000 & Browning et al. 2005) Furthermore, Browning et al. (2005) see contradiction with the working environment in organisations versus the way of working. As the environment is seen to force the workers to work against “how the work is really done” and to work along the process, which often is not the interpretation of the real-life way of working.

In addition to risks and challenges of BPM, there are also various reasons why people resist process modelling. Browning et al (2005, 120) state the following nine reasons for the resistance:

1. Witnessing a lack of benefit from previous process modelling efforts
2. Detecting a lack of resources
3. See current crises as more urgent and important
4. Do not understand the uses, value, and benefits of process models
5. Anticipate and fear control, over-prescription, over-systemization, reduction of creativity, and stifling of innovation
6. Are reluctant to share knowledge and collaborate
7. Have grown accustomed to “hiding” in bureaucracy and are averse to transparency
8. Prefer to work “harder” instead of “smarter”
9. Or combination of the reasons

There are very little research and literature exploring the success factors or measuring successfulness of business process models. Study of Bandara et al. (2005) is one of the few. Bandara et al. (2005) have taken example of the successfulness of BPM by exploring BPM projects and their effectiveness and efficiency. The research by Bandara et al. (2005) found various success factors from which the following describes the most important ones:

- Top management support including funding and management participation
- Modeller expertise including skills, knowledge and expertise
- User participation or in other words stakeholder participation
- Communication including information sharing and feedback.

Bandara et al. (2005) see the process models as effective when they fulfil their objectives and efficient the models are when the process activities are completed in the given time and budget.

2.1.3 BPM method by Luo & Tung

Luo & Tung (1999) argue that there are various different BPs inside organizations, which have different characteristics and span multiple organizational functions. But still these BPs

are similar by well-defined objectives and outcomes. Luo and Tung (1999) identify different perspectives of the process modelling methods as: object perspective, activity perspective and role perspective. BPM methods are also defined from functional, behavioural, organisational and informational perspectives. As there are so many different definitions with different perspectives, Luo & Tung (1999) have concentrated on three following categorising objectives of process modelling: communication, analysis and control. Communication objective concentrates on the simplicity and distribution of the process model throughout an organisation in a way that it is the best way understood within a wide audience. Analysis objective concentrates on finding the answer with measuring the existing processes to find the ideal model with efficiency and scalability. Controlling objective then aims more towards automation and predictability as well as aiming for bigger masses. (Luo & Tung 1999)

Based on the various perspectives, definitions and the three highlighted objectives of BPM, Luo & Tung (1999) describe a framework for selecting BPM methods, which includes:

1. Modelling objectives, which have certain requirements on modelling method in perspectives and characteristics and
2. Matching the required perspectives and characteristics with BPM methods.

The Figure 4. describes the framework for selecting BPM methods by Luo & Tung (1999). As the Figure 4. describes the selection process starts from the objectives of the process and once the objectives are determined the objectives determine the perspective from, which the process is modelled from. The perspectives then require certain characteristics from the process model. (Luo & Tung 1999). As Luo & Tung (1999, 314) describe, “The selection process should be a reconciliation of the required perspectives and characteristics imposed by the modelling objectives and the BPM methods with such requirements”. For example, the objective of the process is communication (described earlier in this chapter), which requires characteristics such as simplicity in description and clarity in communication touch points. The communication objective could have role perspective, which then needs emphasising on who does what so the method should concentrate also to roles and relationships. Then these needed aspects are matched with most suitable modelling method.

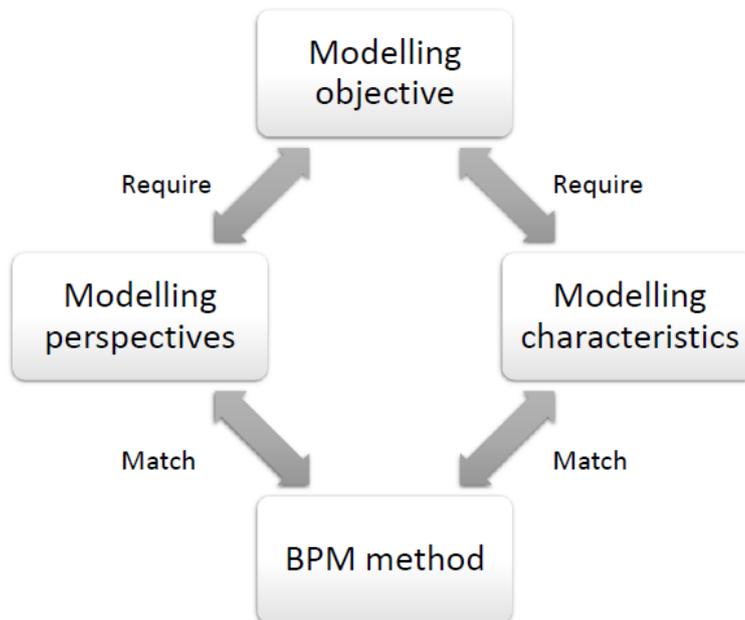


Figure 4. Framework for selecting BPM methods, modified from source.

Source: Luo & Tung (1999)

2.1.4 Workflow management

Workflow can be mixed up easily with business process as they are in many cases discussed as synonyms (Reijers 2003) but here a distinction is made. Workflow management is seen as controlling and coordinating different activities within business processes and the usage of information systems importance in them is highlighted (Georgakopoulos et al. 1995; Reijers 2003; Lawrence 1997 in Zhuge et al. 2000). Workflow management (WFM) belongs under business process management and by that realisation is also part of BPM (Reijers 2003; Van der Aalst 2003, Schimm 2003; Zhuge et al. 2001). According to Georgakopoulos et al. (1995) workflows have two conceptually different tasks: to define business process tasks and to define information process tasks.

Bußler & Jablonski (1994) have different view point in understanding WFM. They discuss WFM from modelling perspective by discussing about two concepts: workflow modelling and organisational modelling. The workflow itself is modelled by covering aspects of

“what”, “when” and “how”, which leaves out the aspect of “who”. As the workflow needs definition of who does the work, Bußler & Jablonski (1994) describe organisational modelling as the answer for it. The goal of organisational modelling is to model the people and relationships within the organisation by defining agents for each flow and managers for each agent. With the help of organisational modelling the flow within a process can be done efficiently as the work can be done efficiently by the correct members of the organisation. (Bußler & Jablonski 1994)

Reijers (2003) also discusses about workflow modelling but rather as part of WFM, which is part of BPM and workflow modelling can be separated as modelling of the order of the tasks, defining responsibilities, information transfer. Even that Bußler & Jablonski (1994) are making separation between workflow and organisational modelling, they do not see them as separate entities but rather separate concepts, which can be handled together under process modelling but should be understood separately. Shimm (2003) see workflow models as separate models from the business processes, which are needed in order to manage the workflow with information systems. Reijers (2003) argue that workflow management is set to functions without usage of technology and information systems and is still conducted without them at practical organisations. Lawrence (1997 in Zhuge et al. 2000) highlights the activity dependencies and activity relationships as the main tasks of workflow management. Georgakopoulos et al. (1995) acknowledge also the humane importance in workflow management as people play big role in determining the correct persons to the tasks within a process enabling the workflow.

Zhuge et al. (2001) argue that when dealing with workflow within the processes time related factors need to be incorporated in order to build a timeline between the activities to be able to identify the actual workflow. Zhuge et al. (2001) highlights the importance of incorporating time related factors to WFM especially when dealing with global organisations as with them time can be crucial point to understand the workflow in action for example data transfer cases as the organisation may deal with different time zones. Also, activity related time definition helps the process users to build expectations of the occurring activities and time consumption of them. (Zhuge et al. 2001)

Georgakopoulos et al. (1995, 130) argue that managing workflows require:

1. “Process modelling and workflow specification: requires workflow models and methodologies for capturing a process as a workflow specification
2. Process reengineering: requires methodologies for optimizing the process, and
3. Workflow implementation and automation: requires methodologies/technology for using information systems, and human performers to implement, schedule, execute, and control the workflow tasks as described by the workflow specification.

2.2 Impact of knowledge management in organisations

Van Wijik et al. (2008, 835) argue that research has shown “that organizational knowledge transfer from both internal and external sources has important implications for organizational performance and innovativeness”. This chapter aims to understand the effects of knowledge management in organisation context by examining different aspects of knowledge within organisations and addressing the success and failure factors of KM.

Alavi and Leidner (1999a) identify the high importance of understanding the knowledge management in today’s organisations in order to meet the needs for speeded development processes of products and services. Ruggles (1998, 80) argues that “KM is a term which has now come to be used to describe everything from organisational learning efforts to database management tools”. Alavi and Leidner (1999b) also state that based on theory, knowledge is an important asset in organisations to gain competitive advantages in a global business environment. They continue that knowledge is still not a competitive advantage if it is not shared and because of that different knowledge management systems are needed. Kalpic and Bernus (2006, 2) identify that “business process modelling is an important tool for knowledge management that allows the transformation of informal knowledge into formal knowledge and facilitates its externalisation and sharing”.

According to Nonaka (1994), ever going dialogue between explicit and tacit knowledge steers the creation of new ideas and concepts. Nonaka (1994) emphasises that knowledge is

created by individuals and organisations create a supportive platform for the individuals to create the knowledge. Nonaka (1994) continues with arguing that intra-organisational knowledge creation should be seen as a process that strengthens the knowledge created by individuals.

The review of knowledge management by Alavi and Leidner (1999a) state that knowledge and a need of managing it exists everywhere in organisation. Already in 1998 Ruggles emphasised the great importance of IT and software solutions in KM. Knowledge management systems and different IT solutions are providing support systems to manage the knowledge at hand (Alavi and Leidner(1999a). E.g. knowledge directory maps are noted to be helpful while connecting different individuals and their knowledge to one another, especially when considering of connecting expertise possess by individuals (Ruggles 1998). However, Ruggles (1998) and Davenport (1998) argue that if technology solves the problem it was most likely not a knowledge problem as in KM problems people related issues should arise and technology only should not be able to solve them. In addition, Davenport (1998) argues that in KM too much of attention has been paid to non-humane related issues e.g. in documenting and storing the knowledge in IT systems in various form when the real attention should be on the people, the ones who create and use the knowledge.

Based on the study of Ruggles (1998), KM efforts are not conducted in organisations as knowledge processes but rather as specific projects around different KM elements such as generating new knowledge, embedding knowledge, transferring existing knowledge etc. Gold et al. (2001) argue that in many cases KM projects are actually information projects as they see many KM projects to handle data but bring only a little to innovation of products and services whereas the KM projects should be far more complex by creating, transforming and distributing knowledge. (Gold et al 2001) E.g. In innovation processes, promoting knowledge-sharing is one the key ingredients, which means that reward systems are seen very important get personnel to react on sharing knowledge within the organisation, teams etc. (Scarborough 2003).

Based on their research, Gold et al. (2001) can identify KM capabilities within organisations, which effect positively on KM effectiveness. The Figure 5. illustrates elements of such capabilities. The Figure 5. categorises the elements under two main capacities, which companies need to possess to have effective KM. Connected to the two capacities are the building blocks of them.



Figure 5. KM capabilities and organisational effectiveness, modified from source.

Source: Cold et al. (2001)

Davenport (1997, 50) identifies eight factors repeated in successful knowledge projects in organisations:

1. “Link to economic performance or industry value
2. Technical and organizational infrastructure
3. Standard, flexible knowledge structure
4. Knowledge-friendly culture
5. Clear purpose and language
6. Change in motivational practices
7. Multiple channels for knowledge transfer
8. Senior management support”

Davenport (1997) notes that the eight found factors are linked to effectiveness of KM success but with his research although are not proven facts of KM effectiveness.

Tsai (2001) has researched knowledge transfer in intra-organisational networks from the perspectives of network position and absorptive capacity. Tsai (2001) argues that the knowledge transfer in multiunit organisations depends on: firstly, the network position and secondly, the absorptive capacity to learn and transform the knowledge to benefit from the knowledge. The results of Tsai's (2001) research indicate that central position in the organisation's network of units is the key to learn, transfer and exchange information and knowledge. However, Tsai (2001) argues also that the position can back fire as the central position requires extensive resources to coordinate the knowledge.

Tsai (2002, 179) sees that, "internal knowledge sharing within a multiunit organisation requires formal hierarchical structure and informal lateral relations as coordination mechanisms". However, Tsai (2002) identified based on his research, that formal hierarchical structures in multiunit organisations can have a negative effect on the knowledge sharing if the means of the hierarchical structure is to centralise the knowledge, since the more control the less willing organisational units are to share their knowledge. In addition, Tsai (2002) found out that the informal lateral relations do not positively effect on the knowledge sharing in multiunit organisations if the units compete for the same internal resources, since internal competition is not seen to benefit the external competitive edge. Tsai (2002) argues that, organisation should reduce the hierarchical systems and increase the social interactions in order the multiunit organisations to improve the knowledge flows and interunit capabilities.

Based on the study by Ruggles (1998) the results of the studied knowledge management related projects most likely lead to process improvements, increased efficiency, cost reductions and better shared knowledge. However, it was important notion that more than a half of the organisation managers taking part in the process did not see the organisations getting better in creating new knowledge, which is seen as one of the most important aspects of KM (Ruggles 1998). Why knowledge management fail, e.g. based on research by Scarbrouhg (2003) in innovation processes is due to "a little interaction between top management and

the developers and users of intranet systems” (Scarbrough 2003, 511). In addition, the research by Scarbrough (2003), the major failure factors with innovation processes were limited knowledge exchange, which did not reach multiple organisation divisions, and inoperative intra-organisational networks. Also, as Davenport (1997, 46) found in his research “finding the person with the knowledge one needs and then successfully transferring it from that person to another are difficult processes”.

In order KM to succeed, Gold et al. (2001) argue that organisations should establish common standards to organise and structure knowledge in order to benefit from it in a long run and be able to manage the knowledge. According to Gold et al. (2001), technological systems are enabling and determining the flow and accessibility of the knowledge organisation wide. Gold et al. (2001) also emphasise strong importance of the people within organisations as they see that most important goal of an organisation should be to integrate the specialised knowledge in order benefit from it the most.

2.3 Managing change in organisations

It is normal that organisations go through with numerous internal change processes during their life cycles, which can be both internally and externally driven. Nowadays organisational change is seen more problematic than earlier due to its speed and complexity. It causes ever more growing challenges to organisational leaders and personnel as immediate reaction is needed, wanted or not. (Pryor et al. 2008, Sikdar & Payyazhi 2014) In this chapter, organisational change is discussed from the perspectives of what makes it challenging and how to overcome such challenges.

Organisational change can be described as incremental or radical based on the nature of the change. The nature of incremental change is the continuing change, which occurs every day when balancing different processes in organisations. It also refers to any smaller changes or improvements on technologies, products etc. Whereas the nature of radical change is fundamental and changes something drastically like introductions of new product range, new marketing campaigns, management systems etc. (Bessant & Tidd 2007, in Haleem 2015; Sikdar

& Payyazhi 2014) The pressure for change may come wither from internal or external environment. Nowadays organisations face high external pressure for sustaining their competitive position at the market, which is seen to trigger change interventions in organisations. (Sikdar & Payyazhi 2014)

Sikdar and Payyazhi found through their research that there are evidences indicating that 70 per cent BP reengineering cases have failed due to lack of connectedness to organisational change processes and strategy, which also means the lack of implementation. There is also criticism of do so vast number of reengineering or other words change, really fail as already discussed in the literature review (chapter 1.4.3). Huges (2011) has researched multiple existing studies which claim the 70 per cent failure rate (in the study as indicated: Hammer and Champy, 1993; Beer and Nohria, 2000a; Kotter, 2008, Senturia et al., 2008 and Keller and Aiken, 2009) and found out proof such as justification only by perceptions and the authors themselves later in their researches highlighting the misinterpretation of their earlier studies of the failure rate.

It is argued that organisational leaders in the key position in inhibiting change process to happen (Conner, 1992 in Gilley et al. 2008; Pryor et al. 2008; Gill 2002). The leaders are seen to be in key position for leading the change efforts but are unable to steer the change efforts due to lack of skills and willingness. Even that there would be willingness to conduct meaningful and sustainable change efforts lack of skill base comes on the way. (Conner, 1992 in Gilley et al. 2008). Conner (1992 in Gilley et al. 2008) also argue that organisations tend to go through the necessary change processes but still simultaneously are not willing to change and hope that the trigger of the change would disappear. The organisations, which are not seen to survive over the course of change are seen to be led by leaders who fail to adapt to the change. The leaders who are proactive, react quickly and responsibly to changes are seen to succeed. The leaders who are innovative, inventive and think outside the box to anticipate the future are seen more successful as they are seen to the leaders of whole industries. (Pryor et al. 2008)

The employees are seen the most important key for successful organisational change as the employees are the ones who are highly affected by the change and are the ones resisting the change if resistance occurs (Pryor et al. 2008; Sikdar & Payyazhi 2014; Militaru & Zanzfir 2016). It is also argued that technologies are at least as important as people when it comes to organisational change but humane factors are strongly linked also to the technological aspects as the systems are controlled and operated by people (Sikdar & Payyazhi 2014, Bovey & Hede 2001). Bovey & Hede (2001) argue that the attentions should not be focused on technical aspects in the change but on the human factors in regard of resistance to change. “These human factors include unconscious processes such as defence mechanisms” (Bovey & Hede 2001, 545). The research by Sikdar & Payyazhi (2014) found out that even that technological dimensions would be aligned with the process, the key dimensions need to be aligned at level of the process activities to succeed in change.

Sikdar & Payyazhi (2014) argue that the change process requires unlearning and relearning. The process of unlearning and relearning should happen not only in technological systems but among the people at the organisation. However, the people may not be motivated or ready for the change. In result, the readiness to change in individuals would need to be measured and the change message should be communicated with multiple techniques. (Sikdar & Payyazhi (2014) “An organisation can change its structure and policy by simply writing new rules and procedures, but the workers are not going to change as easily” (Pryor et al. 2008, 6).

How to address the change and be successful in managing the change process, management should raise awareness and understanding of the upcoming change and its reasons, take feedback and listen to the employees to avoid resistance to change, create motivational programs and involve the employees into the change process with avoiding hierarchy. (Militaru & Zanzfir 2016). Robbins (2005, in Pryor et al. 2008) argue that, weather it reflects negatively or positively among employees, some support need to be put into place for employees to adapt successfully to the organisational change. The importance of assistance and support systems is also highlighted in order to assist the individuals to understand themselves in context of the change in regard of their perceptions and understanding of the change process

itself. (Bovey & Hede 2001) Sikdar & Payyazhi (2014) see that bottom-up approach is needed to succeed with the change with people and again the leaders are in a key role as they are seen to be able to convey sustainable commitment through their communication, actions and decisions. Pryor et al. (2008, 16) concludes that, “in order to be able to be a winner in this type of environment, processes and relationships must be streamlined, non-value-added activities must be eliminated and people at all levels in organisations must be empowered to rapidly make decisions and held accountable for those decisions”.

3 RESEARCH OUTLINE

This part expands the methodology and the data collection plan from the introduction chapter 1.8. The research outline describes the research strategy and methods, initial situation of the case and context and frames the data collection. As the research is applied to a real-life organisation, it is seen important to describe the initial situation of the organisation to create more understanding of the starting point and to explain more deeply the need of this project.

3.1 Research strategy and methods

As described in chapter 1.8. this research is conducted with three-dimensional strategy: qualitative research as for forming the research outline and helping technique for means of the constructions, case study method as for the research environment and constructive method as for conducting the research itself.

Qualitative research is conducted with people and targets to understand people's experiences in a certain context setting. Qualitative research method includes varies of methods and techniques, which means are to enable understanding of issues from the perspectives, meaning and interpretations of the study participants. In qualitative research, underlying assumptions (for example mental models) need to be taken into consideration. (Hennink et al. 2010) Case study method has various definitions. In this research, the case study refers to understanding phenomenon by an example, which are both characteristics of a case study method. (Gerring 2006). The phenomenon refers to the internal aspect of new product development process with help of a process model and the example refers to the case and context are creating.

Constructive research method can be unfamiliar to larger audience is not much used in business research but it has been widely used for example in technical sciences and clinical medicine (Kasanen et al. 1993). Constructive approach in research aims for problem solving through constructions by creating models, plans etc. through existing knowledge. The constructions may be adding missing links, enhancing already existing or creating something

novel. Involvement of the researcher is common and is not aimed to be avoided unlike commonly with research methods. (Kasanen et al. 1993; Labro & Tuomela 2003; Crnkovic 2010; Oyegoke 2011) “Constructivist epistemology emphasizes the fact that scientific knowledge is constructed by scientists with help of cognitive tools” (Crnkovic 2010, 365).

“Constructive research as a methodology begins with strong grounding in identifying a practical problem from practice complemented by related literature” (Oyegoke 2011, 576). Constructive research method can be seen as providing only practical relevance but it has been identified with various researches that the method is though building a bridge between theories and practise. Also, constructive research is seen to provide results with both practical and theoretical relevance. (Labro & Tuomela 2003; Crnkovic 2010, Oyegoke 2011) However, the method has its risks for example with the case study relevance as in order to the constructive method to succeed it needs high support from the case organisation. The constructive method requires much from the case organisation: commitment, resource (people), managerial support and understanding. (Labro & Tuomela 2003)

3.2 Initial situation of the case and context

To recap, the research case in this paper is the internal new product launch process and not the organisation itself, the organisation is creating the research environment and is the context for the case (as explained in chapter 1.8.). As described in the chapter 1.1., the case organisation is a foreign subsidiary, a production facility, of a multinational technology company.

As it was recognised at the organisation that a new product would be launched in near future, which could serve as a testing environment for the project and information source of pros and con for developing the new process model further if needed. This realisation initiated the project for developing a process model of the internal new product launch process. Accelerated product development efforts towards new products and simultaneously production lines created need and raised the importance to develop the process model. As discussed in various parts of this paper, the competitiveness at global markets are even mode growing

and changing environments need to be taken in companies proactively. Also, as the chapter 1.1. highlighted, global competition and organisation internal collaboratives are crucial contemporary aspects on introduction of profitable and topical new products. New product development (NPD) is strongly argued to be one of the key issues to succeed, survive and keep up with the competition. (Kotler et al. 2005; Di Benedetto 1999; Olson et al. 2001; Brown & Eisenhardt 1995; Mcgarth 2000)

There was no existing modelled process even that the process itself was existing as there were already existing procedures and formalities as well as internally launched new products. As the process is not previously modelled, the needed steps and tasks within the process are not known by the participants of the process. The information flow is not as it should be, which creates information cuts, misunderstandings, and undone tasks. These challenges also foster that the process participants do not communicate together. (This information is possessed from background discussions held for research group, process participants and other key persons for understanding the initial situation)

As a production facility, the case organisation was already familiar with the process thinking, which eased the research process. The case organisation uses lean process thinking by using for example, value stream mapping for describing the current situation and to map problems and Kaizen for lean process understanding purposes. “Lean production principles have been proven to reduce waste and improve process performance in highly complex development and production environments” (Lapinski et al. 2006, 1083). “The lean analysis of production flow requires documentation or mapping of the process“ (Liker 2004, in Lapinski et al. 2008, 1085).

3.3 Data collection

As discussed earlier in the part 1.8. the study is conducted through three ways for data collection: (1) organisation internal open discussions conducted for the team members and other vital process participants, (2) organisation external open discussion conducted for external knowledge intensive persons representing the “customers” of the process, (3) research team

discussions held after each developed construction till the final version to receive feedback and raise discussion. To understand the initial state of the process and starting point of the research, a discussion with the research team (formed from the knowledge intensive persons of the process), members of the process participant departments and other vital persons in sake of the process is held. For specific data collection plan of the research, please see Appendix I.

Constructive research method does not limit or demand specific data collection method or technique to be used (Kasanen et al. 1993; Labro & Tuomela 2003; Crnkovic 2010; Oyegoke 2011). However, it is common to that constructive researches are developed with a study group or a project team the researcher as a member or leader of the group. By this way the researcher is easily a part of the research as is the study method with constructive research (Kasanen et al. 1993; Labro & Tuomela 2003; Crnkovic 2010; Oyegoke 2011).

The data collection of the study is conducted by group discussions held at the case organisation with pre-set members, who are seen as the knowledge intensive persons in sake of the process at hand, internal new product launch process. In the organisation, the internal new product launch process concerns information transfer between the producing subsidiary and the country offices in EMEA area. The research group related facts are discussed in more detailed in Appendix I. The group discussions are formed around the research questions to determine: the information needed to be transferred in the process, who are the actors of the process and what should be the information flow in the process. Especially aspects around information flow, detecting aspects of “who” and recommendations for changes are highlighted when conducting the discussions. The commitment process and its reasoning is discussed more from theory base.

Functional cooperation is seen to increase, when processes go further and develop further (Olson et al. 2001), which supports forming of cross-functional team for process purposes. Also, it is highlighted that it is important to select people, who have appropriate skills and attitudes towards developing something new as those features are determined as the crucial ones in project team members in order to the team to be able to integrate knowledge from

diverse sources (Grandoni & Soda 1995, in Scarbrough 2003). Browning et al. (2005) argue that the knowledge intensive personnel is the ones who currently work with the process at hand.

3.4 Research analysis

From the qualitative research, thematic networks (Attride-Stirling 2001) analysis method is used to analyse the qualitative material to help developing the constructions. The thematic networks are helping to group the collected data under meaningful themes and specific information to provide insight for the development steps (Attride-Stirling 2001). Overlook and analysis of the construction is then continued as a group effort with the research group from the case organisation to analyse each developed construction according to its usability and correctness in the means of the process by following constructive method.

The analysis method of thematic networks is used for grouping the discussion into areas based on the content of the discussion. The acknowledged areas are then broken into parts to incorporate them to the constructions. Results of this research are illustrated as the developed constructions, which are constructed based on the collected data and surrounding theories. The collected data is analysed to link it to literature to find deeper justifications on how to incorporate them to the constructions, which results that the constructions themselves are part of the analysis. The final versions (process model & information map) are then analysed in relation to the research questions, objectives and goals of the study, in relation to theories and what realisation can be concluded.

3.5 Reliability, validity, and ethics

It is often seen as negative aspect in sake of reliability, validity and ethicality of the research if the researcher is taking part to the conducting of the research by affecting to the research outcome or intervening in any matter. But with constructive research method the researcher is part of the research process and should have an effect. (Labro & Tuomela 2003; Kasanen et al. 1993). However, it is argued in qualitative researches that once the subjective nature

of the researcher is acknowledged and stated in the research, it should be also shown to be acknowledged by the researcher oneself (Cho & Trent 2006). In regard of the reliability of the study with constructive research method and with qualitative research the underlying assumptions of the research participants should be taken into account to understand how the individuals would construct their own understanding of the subject matter (Oyegoke 2011, Cho & Trent 2006). It is important in order the research to understand the social context and knowledge base of content what the individual is helping to create (Oyegoke 2011).

As thematic networks (Attride-Stirling 2001) from the qualitative research method is used in the analysis process of the study it can be said to provide at least reliable data analysis method. That can be concluded as “by breaking up the text into clearly defined clusters of themes, the researcher is able to unravel the mass of textual data and make sense of others’ sense-making, using more than intuition” (Attride-Stirling 2001, 402). It is argued that the valid construction is the one, which clearly works. But simultaneously it raises a measurement issue of what is considered as “clearly working”. On the other hand, the valid construction is concluded as the one solving the initial problem (Kasanen et al. 1993). It is also noted that there is “always subject to possible revision by new evidence” when it comes to the outcome of qualitative research (Seale 1999, in Cho & Trent 2006, 321).

Ethical tensions are present in all kinds of research and in every research field (Richards & Schwartz 2002; Guillemin & Gillam 2004; Haggerty 2004). It is said that there is procedural ethics and “ethics in practice”. Procedural ethics can be seen as the reminder of protection of the research participants and research integrity whereas the “ethics in practice” deals with the ethical issues, which arise throughout the whole research process (Guillemin & Gillam 2004). Reflexivity is seen as useful tool to discuss and understand ethicality in research (Guillemin & Gillam 2004, Cho & Trent 2006). Also, ethicality has different forms in different fields of studies for example in medical science the welfare of the patient and patient confidentiality or in business studies the issue of company secrecy (Richards & Schwartz 2002; Guillemin & Gillam 2004; Haggerty 2004). To conclude, it is tricky to point out specific issues of what is ethical in, which situation as the ethicality is seen also as subjective by the situation (Guillemin & Gillam 2004).

To continue the above theoretical discussion about this research's reliability, validity and ethics I as a researcher state to acknowledge my subjectivity towards the research as a member of the research process in data gathering, data analysis and research outcome. I acknowledge that my previous experiences and mental models simultaneously affect to the whole research process with the study group's experiences and mental models. As a researcher, I also see my reflexive nature towards the research. However, it is tricky to measure the effects of my influence. But still, the object is to act as a researcher in means of constructive research method by steering the research process for example by raising assistive questions and not to influence to the content of the research process. It is ethical to notify that the names (department, individual) and specific descriptions of content of the information within the research outcomes (process model and information map) are limited in the name of individual protection and company secrecy protection. However, as a researcher, I argue that these do not significantly effect on the research illustration, analysis, or outcome.

4 PROCESS MODEL CONSTRUCTIONS AND ANALYSIS

The constructive research method is a step wise process, which main goal is to create one functioning construction in a suitable form (tool, diagram, model) to solve a practical problem. It is natural that with constructive research method, there are “constructions” on the way before the final version, but these “constructions” are in many cases perceived as part of the process as phases of the work. (Kasanen et al. 1993) These aspects in mind this chapter describes first all the constructions (3) on the way to the final version by describing: the objective(s) of the construction, research questions at hand, theoretical framework, and the process of building the construction. To understand the data collection and analysis processes described in this chapter and Tables 2.-5. please see Appenix I and II. Each construction has theory around it in order to develop the actual construction and to answer the research questions, which are the underlying key elements of each construction. Due to company secrecy and individual protection issues the actual process model construction as such cannot be shown, but all needed illustrations for the research and analysis purposes are shown. The part ends with description of the final version of the process model with analysis.

4.1 Development of the process model

As the first construction is seen as a preliminary version of the process in a modelled form in addition to the collected data, assistance from literatures is sought to form the model. The framework illustrated in Figure 4. is the used theoretical background, which forms the development plan for the first construction. As describes in chapter 2.1.3. the selection process starts from the objectives of the process, the objectives determine the perspective where the process is modelled from and the perspectives require certain characteristics from the process model.

As per the data collection plan (see Appendix I), the objective is that the first construction gives preliminary state answer to the 1st, 2nd and 3rd sub research questions. The perspective of the first construction is rising from the research context settings as this research is a case study with an organisation as the context, the case environment creates the perspective. In

addition to the case perspective, theoretical surrounding of the research questions at hand affect also to the perspective. As the chapter 1.3. discusses, the subject sub-questions are related to various theoretical settings, which create background to understand the elements behind the question setting.

The interpretation of the first construction is based on the background discussions held with the project teams' members and their departments and with other process participants. Table 2. describes the aspect, which were highlighted by the background discussions. The aspects identified in the Table 2. are creating the research background for developing the first construction. The background discussions gave also insights of the determined process activities in relation to the actors but only based on the departmental knowledge of the subject process.

	Realisation that different departments should communicate more with each other
	Identification of the process participants (in departmental level)
	Identification of the needed information (by each department)
	Realisation that the biggest obstacle is the lack of information transfer
	Realisation that the unmodeled process causes extra work

Table 2. 1st construction – Research findings.

To follow the framework by Luo & Tung (1999) the required characteristics identified by the framework are concluded based on the highlighted aspects from the background discussion in relation to theoretical applications. Theoretical findings support the argument that that there should be more communication between departments. Van Wijik et al. (2008) argue that transferring knowledge across the organisation is seen positively affecting to the

performance and innovativeness of an organisation. Lack of information sharing as preventing processes to function is also emphasised strongly by current researches. KM literature highlights the importance of knowledge-sharing as it is seen to be the key ingredient for knowledge and information intensive process to function. (Scarborough 2003) In addition, KM capabilities within organisation are seen to play a key role in effectiveness of knowledge and information related processes. Infrastructure and processes for enabling KM are seen as the key capabilities. (Cold et al. (2001) Kalpic & Bernus (2006) argue that BPM is important tool for transferring information and modifying the information to fit the sought outcome, which can be also linked to the research argument that unmodeled processes cause extra work.

As the framework in Figure 4. suggest, based on the above discussed elements, next the modelling method should be identified. Connectedness with the discussed aspects by the research and theory fit to flow chart definition. As described in the literature, process flow charts describe operations, data, flow directions and/or solutions of problems. The process flow charts concentrate on illustrating sequential flow of actions, but does not take a stand on the possible breakdown spots of activities. (Aguilar-Saven 2004)

Figure 6. is visual interpretation of the first construction's elements to indicate the building blocks, displays the structure of the process model and explains the process model characteristics. The process wise meaning of each elements is shown by naming the elements in the Figure 6. The Figure 6. should be used also in understanding the process elements of different constructions. The resulting process model of the first construction is not seen the most important visualisation at this point, as first it need to be understood, what are the elements, where the process model consists from.

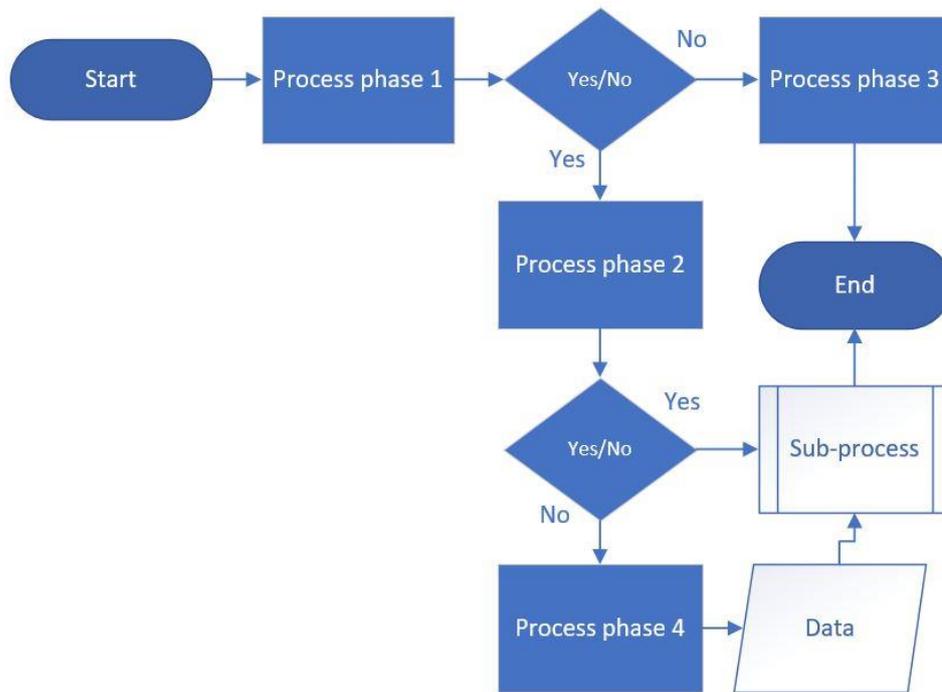


Figure 6. 1st construction – Visual interpretation.

2nd construction

As the data collection plan indicate the second construction seeks thorough answer to the 2nd sub research question and continues to form further state answer to the 1st and 3rd sub-questions. The background discussions indicated that it is not clear what is send, to whom it is sent and when, which emphasised even more the need to discuss the issues within the research questions 1-3. After the illustration of the first construction, the first construction was analysed and discussed over with the research group. The Table 3. describes the highlighted points from the discussion to develop the construction further.

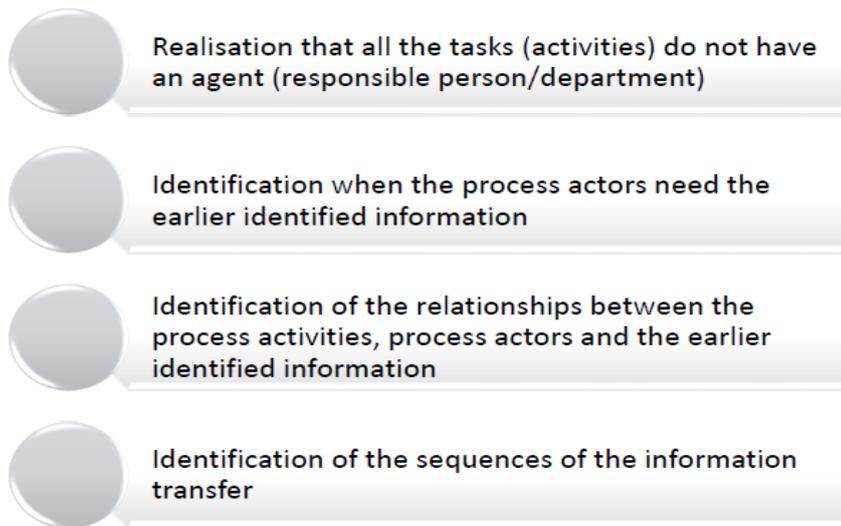


Table 3. 2nd construction - Research findings.

As the Table 3. indicates, the process actors needed further determination. Based on the discussion some activities were modified and added. Based on the discussion and with help of theoretical surrounds, the missing actors were determined. Literature argues strongly that it is important to include those people to the process who currently are working with the process in order to capture most reliable knowledge (Browning et al. (2005). Based on the conclusion of the research findings, it can be concluded that the process model should not be one dimensional as there are various relationships identified between the process activities, actors and information. In result, cross-functionality should be highlighted more in the process model, which modifies the first construction towards cross-functional flow chart. There is also theoretical support towards using cross-functional processes, especially in regard of this process case. Launch process is seen challenging as the chain between product development and actual launch can be long and complex due to widely used cross-functional NPD teams easily creating information gaps and putting pressure on collaboration. (Kotler et al. 2005; Di Benedetto 1999; Olson et al. 2001; Brown & Eisenhardt 1995; Mcgarth 2000).

Figure 7. is representing the second construction with the process model visualisation, which is further developed from the first construction (illustrated in Figure 6.). The illustration

emphasises the cross-functionality of the process model, which in action means more emphasis on “who” in the process. The process elements by describing the meanings of the process elements of the construction are described already in the Figure 6. The element “who” is shown by different departments, departmentally indicated actions and information flow from one department to another. Also, individual wise, the actions have their actors at the background, but due to individual protection reasons those are not shown in the Figure 7. As can be seen from the Figure 7. the decision points have been limited down to meet with the objectives of the model in relation to the previously defined problems identified in the chapter 3.2. The second construction is built to also emphasise more the information transfer and how the internal new product launch process should go rather than illustrating the points, where employee or department level decisions need to be made on the background of the process activity at hand.

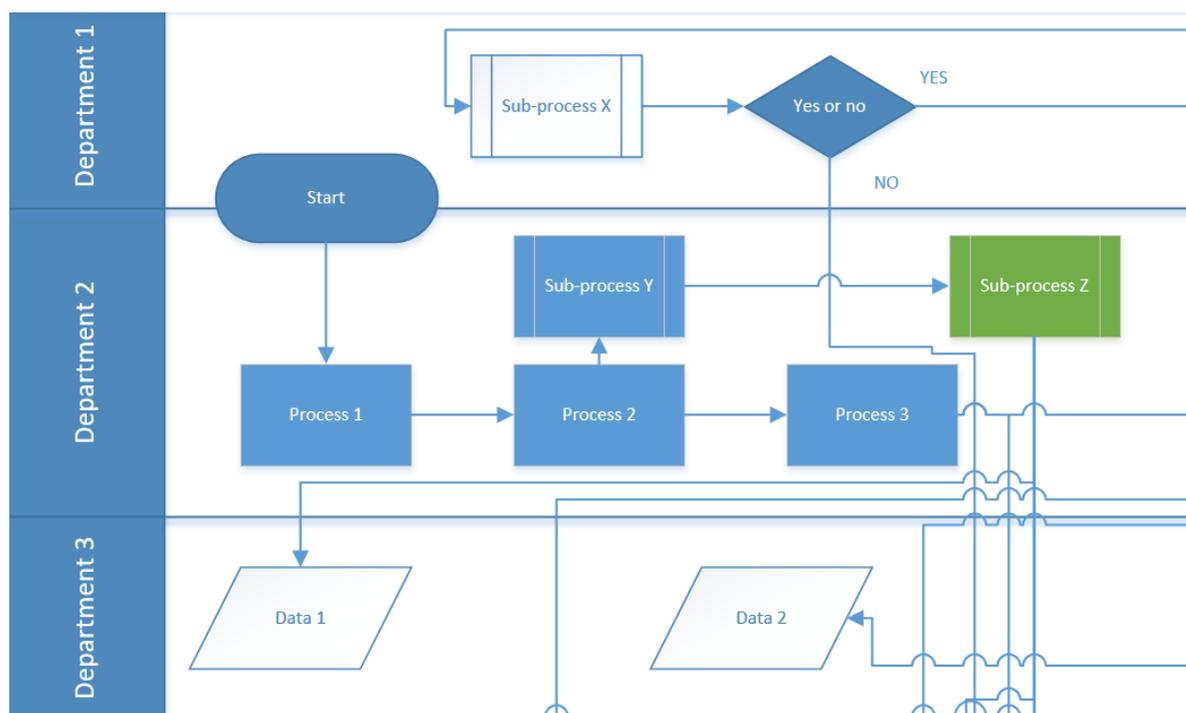


Figure 7. 2nd constructions – Cross-functionality.

3rd construction

The third construction seeks thorough answer to 1st and 3rd sub research questions (as discussed in the data collection plan). From the background discussion, it was highlighted that

it is not commonly determined how the information should flow within the process, which creates information cuts. This realisation on the background, the emphasis on the 3rd research question should be identified more strongly, when the second construction was developed. Moreover, each actor in relation to each activity are seen very important when going through with the project group discussion to analyse the second construction. Browning et al. (2005) argue that it should be discussed with actors in relation to each activity of the process to find out what is the information and other inputs within a process. The Table 4. describes the highlighted points from the discussion to develop the construction further.

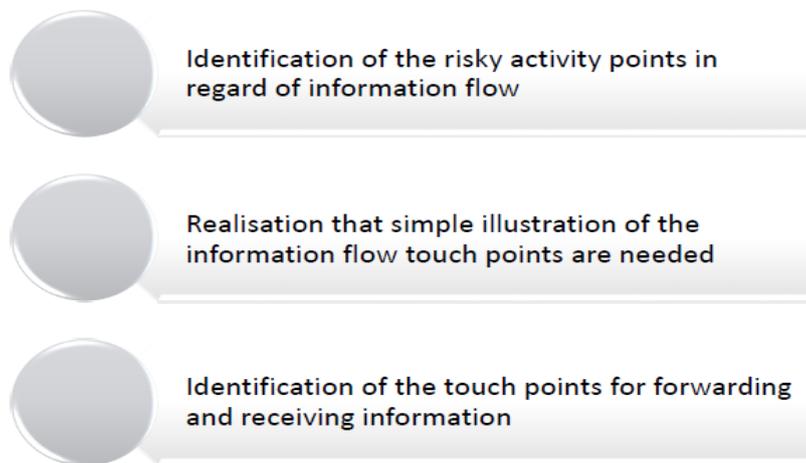


Table 4. 3rd construction - Research findings.

The individuals at the organisation need support from the organisation for the information flow processes. Even that the knowledge and information is seen to be developed by the individuals, organisations play a key role in articulating and strengthening them. (Van Wijk et al. 2008). The research findings shown in the Table 4. can be seen to support this view as the individuals help the organisation to form a process model with intensity of information flow. The process model is creating a platform for the information flow. As when the model is defining the activities, it creates the route for the information flow by defining the order and touch points of the information transfer. It is also argued that each activity needs and produces information and information can be seen as the vascular system of process models to function (Browning et al. 2005).

As the data collection plan shows (Appendix I), the plan was to include three (3) country office discussion to the research aiming to understand the “customer” of the process and to receive deeper insights especially to 1st and 3rd sub-questions. The country offices were divided based on the used information systems as the subject process is related to information transfer. Based on that deviation, the knowledge intensive persons were selected from the country offices. However, the research got a hold of only one knowledge intensive person from the country offices, which cannot give much deeper insights but still, may give implications of external triggers to develop the constructions further. This in mind, the one external discussion is taken into consideration to have more grounds from the research point of view when constructing the third version of the process model Table 5. shows the highlighted issues from the country office discussion.

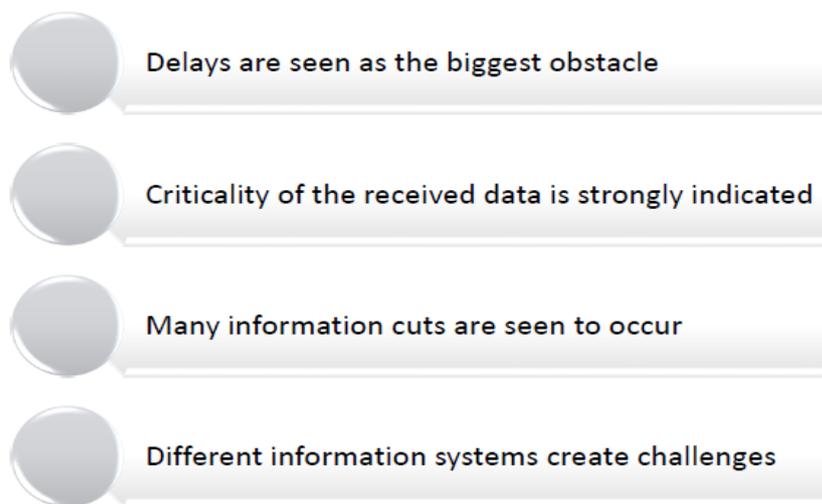


Table 5. Country office discussion - Research findings.

Even that the country office discussions were not sampled as widely as intended, the insight of the one discussion are incorporated to the construction. Although, the different information systems are not the objective of this study it was noted that “what information” is transferred in the system is an important factor also in regard of the “customer” of the process. In order to send correctly formed data in timely manner, the information flow should function in the process. Especially this issue is highlighted in the third construction.

The Figure 8. is highlighting the information flow touch points and information flow enablers in the process model. The most important aspects of information flow are circled in the illustration. To recap the process elements, see Figure 6. As can be seen from the Figure 8., different departments received various different information (notification) and the sub-process enables the transferring of the data. To emphasise the “who” in the process model, organisational modelling perspective from WFM is used when defining each agent (actor) for each flow (activity dependent of information) (Bußler & Jablonski 1994).

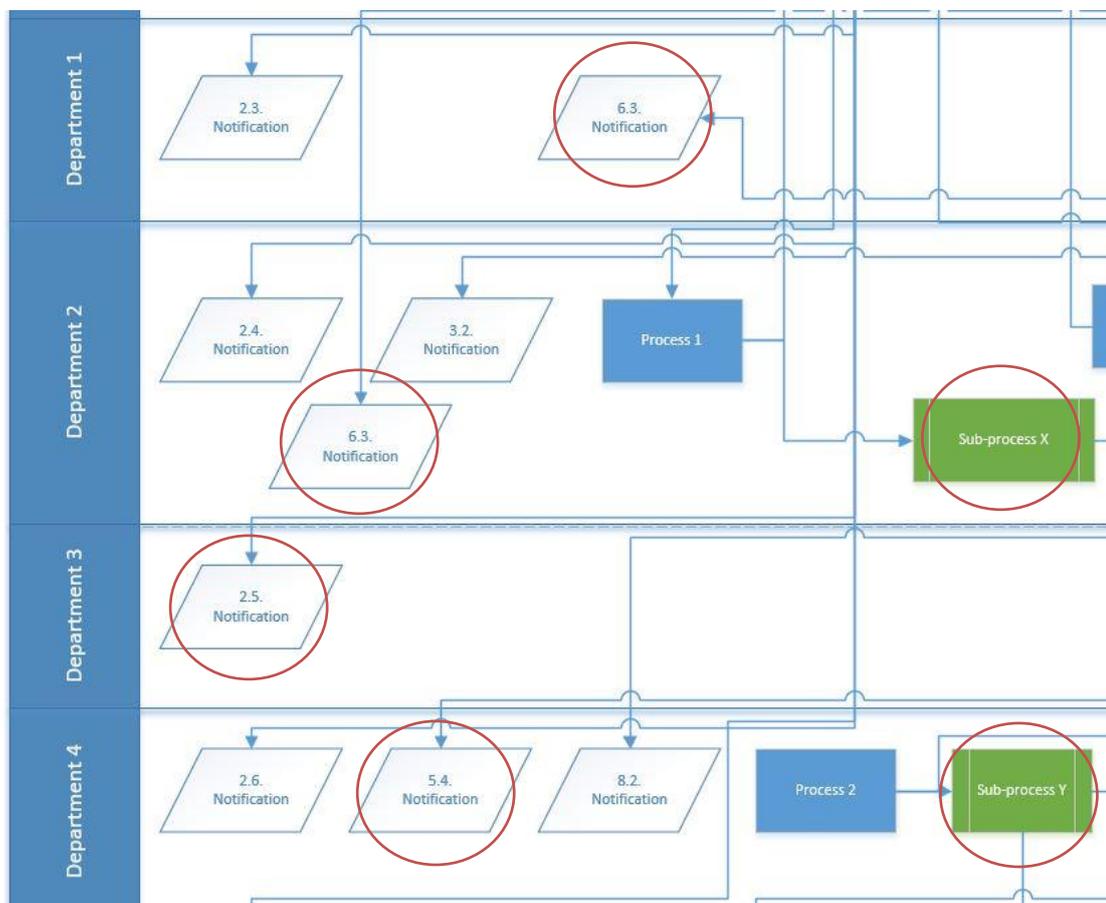


Figure 8. 3rd construction – Information flow.

4.2 Description and analysis of the final process model

As the chapter 3.2. describes, the main challenge of the case organisation in relation to the internal new product development process was seen to be the not modelled process itself. In

addition, missing information flow creating information cuts, misunderstandings, and undone tasks as well as uncommunication between process participants were seen the biggest challenges. These practical problems the process model should tackle and solve as is identified with the help of the research questions and development of the constructions.

The ready process model is modified only a little based on the final discussions as only fine tuning was necessary and checking that all the needed building blocks are there as they should. Considering this realisation, the illustration in Figures 9. and 10. concentrates to emphasise the usability elements of the ready process model. The usability is important factor with business process models and the goal is to solve practical problem. The developed model can be defined as both descriptive and prescriptive as the developed model tries to capture tacit knowledge and concentrate on how the work is actually done and indicates what tasks to do within the process (Browning et al. 2005) Moreover, processes related to product development, as the subject process is, can be seen as an example of the nature of process models being both descriptive and prescriptive.

As the research background has implied, the research group values the simplicity and usability. Even that the point of process modelling is to ease the planning and controlling of a process it may make them more complex especially with design of the model (Becker et al. 2000). There is also a risk with the process modellers, as they tend to forget the usability and audience of the process model. This in mind the final process model is not standing alone as comprehensive explanation of each step of the process is available for the organisation also to commit and educate employees and process participants about the process. The models might lack their purpose as communication platforms, which are meant to be used by the whole organisation (Becker 2000 & Browning et al. 2005). This in mind, the research background plays a critically important role in the development process of the model.

The Figure 9. and Figure 10. show two descriptions of the layers built to the final process model. The process elements on both figures are described inside each element. As the usability needed more emphasis, there are all together three different layers built into the process

model: (1) to identify the main process as identified in the Figure 9, (2) to identify the information flow touch points (data) in relation to cross-functionality as shown in the Figure 10 and (3) to identify the sub-process identifying the information transfer. To compare the differences between the process model including all attributes and definers, see Figure 8. As can be seen, the notification definers are eliminated from the Figure 9. whereas the Figure 10. shows only the information flow touch points.

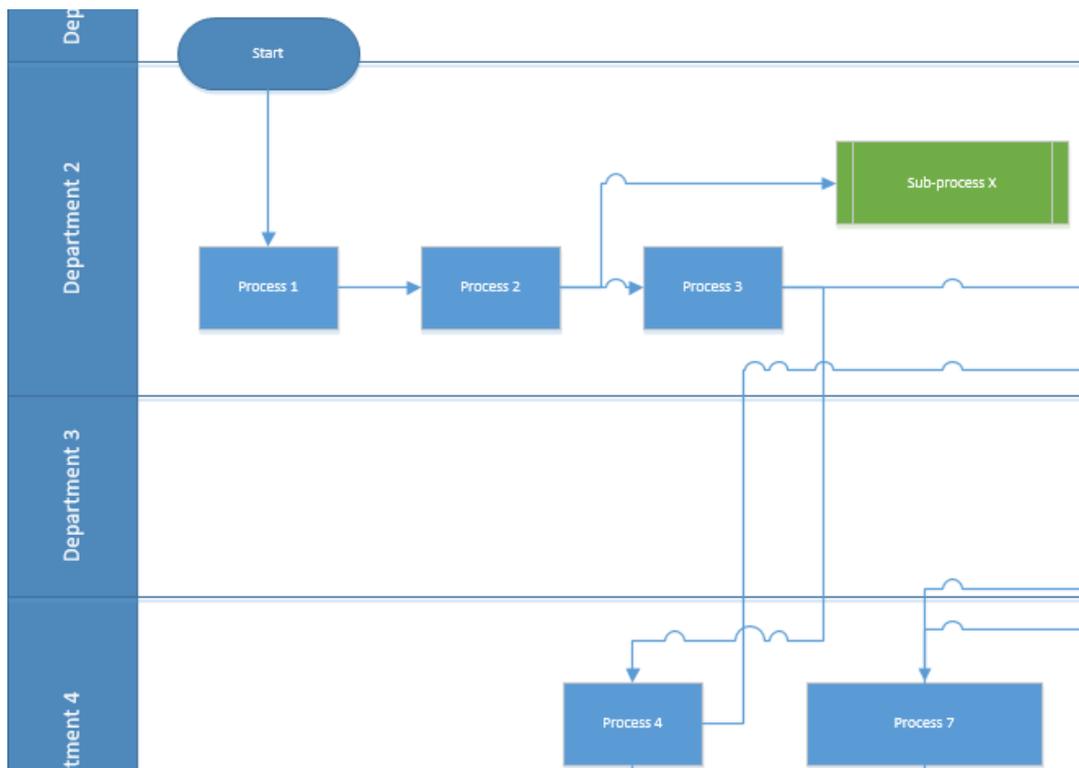


Figure 9. 1st example of the developed process model – Usability.

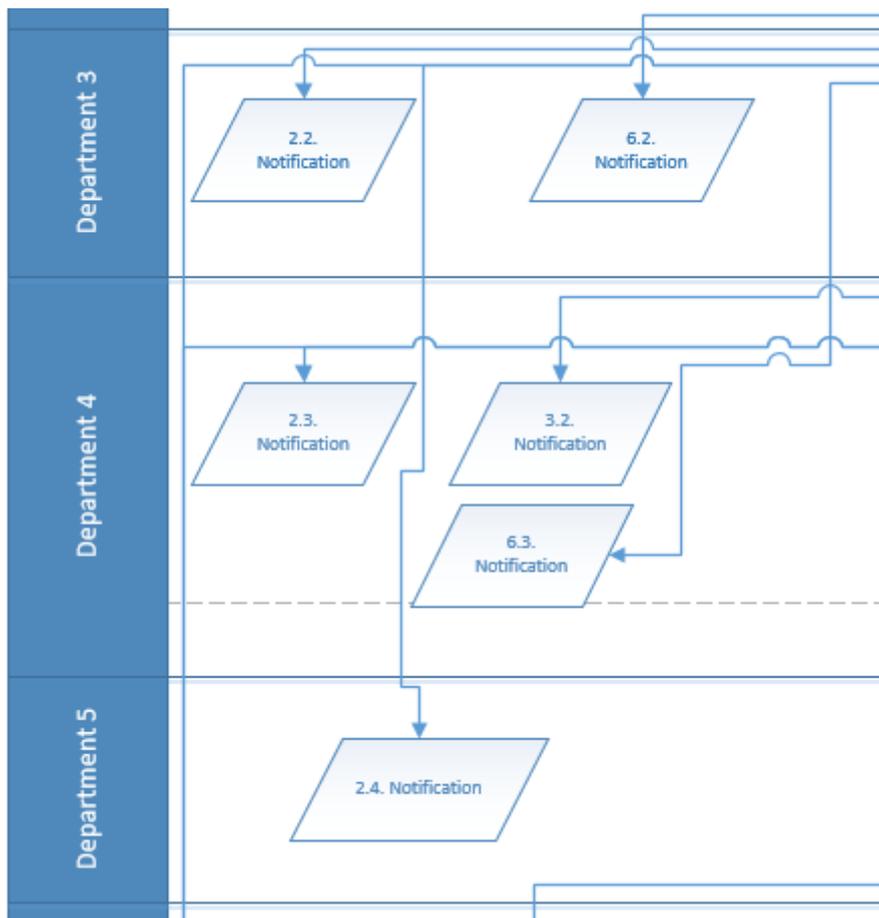


Figure 10. 2nd example of the developed process model – Usability.

The ready process model describes the process in the way it should go. But it needs to be understood that the model can change any time if the activities, order of the information, or the processes of creating the information changes. Also, it needs to be considered that processes do not always follow the modelled structure. As the first chapter of this study argues, product development is not enough, new developed products need to be also launched fast and successfully to generate sales, return on investment and to fight against the competition (Kotler et al. 2005; Di Benedetto 1999; Olson et al. 2001; Brown & Eisenhardt 1995; Mcgarth 2000). From this theoretical argument, it can be concluded how important the developed new process model is for the case organisation. Additionally, as the target of the process model is to provide the model for the organisation's use, there are always parties, which are not entirely happy as the target is to “serve the common good”. Still, there are

implications towards the successfulness of the process model, at least based on existing researchers. Successful process model developments include user participation and emphasise communication including information sharing and feedback (Bandara et al. (2005), which are strongly present in this development process.

It is widely noted that people are resistant to change and it is evident that resistance to change is present with the new process model as the model might change the way work has previously been done and take resource from the employees, which they might not have. Also, the learning of the new process model takes resources from the employees as the learning curve takes time, which also demands motivation from the individuals. To conclude, the change management aspects can be very challenging. To tackle the resistance, the change management aspects have been taken into consideration when developing the process model.

There are implications that the resistance towards change lowers when the employees affected by it are taken into to the change process. Employees of the organisation can be said to be taken into the development process as the new process model is developed with help of a research group consisting from them. As it is already pointed out, motivational aspects are tightly connected to the change resistance. It was surprising to notice how motivational the discussions were to the different departments and employees, when their problems and recommendations in regard of the process were taken into consideration and then actual illustration of them was represented as the ready process model. It is said that teamwork provides the researcher with a series of participant observations, which then form a specific basis for interpreting the events in the case setting (Labro & Tuomela 2003). Previous research indicates that the employees are the key to successful organisational change processes as the employees are highly affected by the change (Pryor et al. 2008; Sikdar & Payyazhi 2014; Militaru & Zanfir 2016).

To ease the change management related challenges, the information map is developed as the objective of the map is to create a platform for sharing knowledge and information possessed by the employees' part of the new process model. The next chapter (chapter 5.) is discussing

more deeply about the information map and its benefits towards change management challenges. It is discovered that knowledge directory maps are helpful tools when connecting organisational knowledge inside an organisation as such maps are seen to enable the knowledge and expertise possessed by one individual to be connected to another individual (Ruggles 1998).

5 INFORMATION MAP CONSTRUCTIONS AND ANALYSIS

The information map is set to support the developed process model as discussed in the chapter 1.3. This chapter is structured to describe development of the information map by two constructions, preliminary under development and the final version. Differing from the BPM development, both constructions of the information map have same theoretical background as the information map is one coherent a subset of the whole research project at hand and can be considered as a part of the process model. In this part, first the reasoning and data behind the constructions are explained continuing to detailed illustration of the constructions and concluding to theoretical implications of the particular construction. As with the previous part, due to company secrecy issues and privacy protection reasons, the actual process model construction as such cannot be shown, but all needed illustrations for the research and analysis purposes are shown. The part ends with description of the final version of the process model with analysis.

5.1 Development of the information map

It is evident that the process model needed to be developed before the information map could be formed as the target of the information map is also to complement the process model and to map the actual persons behind the actors of the process. The development of the information map consists from two constructions very similar to one another, which then result the final version of the information map. The first construction is formed based on the given data by the organisation and the knowledge received from the process model discussions in order to map who are the correct persons to take the responsibility of each activity.

The second construction and the final version are formed based on the feedback and comments from the research group. It needs to be pointed out that a decision was made along the process that the final version of the information map is developed together with project team persons, who represent the biggest responsibility areas in the whole process based on the process model. This decision was made based on time challenges regarding the process, which often happen with business cases. It could have been a risky decision but similarly it

was noted that those persons have the most knowledge and experience of the launch process itself.

As the constructions are very similar to one another and only significant differentiator are change of some responsible persons, the constructions are not illustrated separately due to individual protection and company secrecy reasons. The visualisation of the information map is shown in the Figure 11. The map is formed relying on ready data given by the case organisation, all the process model discussions and information map feedback discussions with the research group. The information map is developed relying on sub research questions 2 & 4. These issues are indicated also in in the data collection plan.

This supporting tool is seen as information map rather than responsibilities map as the goal and objective of the map is not only to show the actors of the developed process model but to give deeper insights of the knowledge and skills of the process actors to support higher usability and organisation wide information sharing. Based on the research group discussions, it is identified that the information map may positively affect to the information and knowledge transfer, if the map is shared effectively to the personnel throughout the organisation and its information systems. An interesting conclusion could be made from the process model discussions in relation to the information map. For some departments, it was clear from the beginning who are the responsible person in relation to the process activities described in the process model, but the responsible persons might not be seen as the knowledge intensive persons.

The Figure 11. displays the structure of the information map. Process modelling theory concerns also workflow management aspects, which are also related to the information map as the map describes the tasks by actors, which are already described in the process model. The information map is also set to be the tool to distribute knowledge across the organisation. To complement this goal, the information map does not either stand alone as comprehensive instructions of the usage of the map and explanation of the purpose of the map are provided to the case organisation. In addition, the final version includes two layers as the information map is divided by: (1) user base being the new product launch project group and (2) user

base being the whole organisation. As the process model describes a process, which occurs in every time when new products are launched internally, the research group saw it important to provide an information map, which simultaneously provides a template for the means of the subject project. The Figure 9. is showing the visual version of the layer, which is used with projects as it has elements, which need to be added each time the project for the subject process is initiated. The project based information map is important as the agents of the process may vary even that the process model stays the same. The layer for the use of the whole organisation includes fixed persons, who are the knowledge intensive persons.

Name of the project (to be filled in)					
	Responsibilities:				
Tasks:		Department 1	Department 2	Department 3	Department 4
Task 1	X				
Task 2	X				
Task 3			X		
Task 4	X				
Task 5			X		
Task 6				X	

Figure 11. Information map - Visual interpretation.

Even that the information map is not described here as a workflow model it possesses features of a workflow model, when the process model activities can be connected to the map. In this work, the process model and the information map are to complement each other's so the point of the information map is not to describe the workflow of the process solely, but to give more insights of the tasks and knowledge intensive personnel regarding the process.

5.2 Analysis of the information map

As discussed in the chapter 1.3. the objective of the study is to create better information flow inside the process to show how process actors influence one another, to create links between the process participants to prevent information gaps and to determine responsibilities within the process. The information map is targeted to tackle these practical problems. As the information map is not targeted only for information sharing purposes and complementing the process model but also to new process model commitment purposes, the topic of commitment is also discussed in this chapter.

It is vital to identify the individuals with needed competences and skills for each activity to foster the knowledge sharing and to create business value. Once the individuals possessing the needed features can be linked to the activities, the same individuals can be identified as the knowledge intensive persons and incorporated to the information map. The importance is also identified by previous research as it is argued that organisations need to map the skills and competences of each in order to link the actors and activities (Caetano & Tribolet 2006).

The knowledge intensive persons then are the ones, which the map seeks other individuals to contact in regard of the process with questions and other issues. It is seen that this style creates a platform for knowledge and information sharing and creates collaboration not only with the process participants but with others, who are working in operations related to the subject process. As it is also identified by previous researches, cross-functional process demands collaboratives (Kotler et al. 2005; Di Benedetto 1999; Olson et al. 2001; Brown & Eisenhardt 1995; Mcgarth 2000). It is seen that aligning tasks and different activities of a process to one another, it results alignment between different individuals as the activities bring the individuals together. The alignment method is also seen as change management effort. (Sikdar & Payyaxhi 2014). Previous research also highlights the importance of relationship approach (Matikainen et al. 2015).

In addition, the complementing information map supports the information flow of the developed process as it provides much more detailed insights of the individuals working in the

departments regarding the process. Previous research also argues that functional workflow needs definition of who does the work (Bußler & Jablonski 1994). The importance of assistance and support systems is also highlighted in previous research. The assistance and support systems are to assist the individuals to understand themselves in context of the change in regard of their perceptions and understanding of the change process itself (Bovey & Hede 2001). This could imply also that information map eases the change resistance.

As the theoretical findings have proven in chapters 1.4., 2. and earlier in this chapter, it is important that the management is leading by example and that in the process there is a clear owner, who is responsible of the process for supervision and implementing it. Many of the research group participants were in fact managers of their own department, which was not intended, but the organisation itself already saw that the persons possess valuable knowledge about the process. However, the owner is not alone as the other participants in the process are obligated to communicate and implement the new process to their own department and working environment.

Previous research shows that to face the change management resistance and possible overcoming it, the change message should be distributed with multiple techniques (Sikdar & Payyazhi 2014). The research can be said to support this finding as the changed process model is developed with the personnel of the organisation, managers are highly represented in the process and there are visual tools with multiple user base taken into account. This can be concluded to be communication with multiple techniques. Change management success can be said to be linked to knowledge management success as previous research in regard both of them highlight strongly managerial importance as enabler or preventer of the successfulness of such operations (Davenport 1997; Conner, 1992 in Gilley et al. 2008; Pryor et al. 2008; Gill 2002). As the process participants are mainly consisting from management level personnel, they can be seen as key personnel for committing the process and organisation to one another as they are already highly implemented in various parts of the organisation and have already taken responsibility.

6 DISCUSSION AND CONCLUSIONS

This chapter provides an overview of the findings of this study in relation to the defines research gap, research questions and objectives and goals of the study. The chapter then moves to critically assess the study and its content by moving forward with defining the applications of the research. Last part of this chapter discusses about the limitations and future development areas with discussing the recommendations resembling the practical research problem and research method.

6.1 Key findings of the study

The research gap (chapter 1.2.) is the first definer of the research problem and should be investigated based on the research. It is can be concluded that the existing literature on both BP and BPM it is not linked to launch process. Aiming to close this gap, this research is clearly creating the link between launch processes and BPM simply by solving a practical modelling problem and describing an internal new product launch process. The launch process aspects are present in the process model even that the research could not show them in detail due to a company secrecy issues. Also, this research can be applied in more general context in business field and shows also theoretical implications (further discussed in chapter 6.3.)

In relation to the research gap the existing research also shows that the relationship approach, is directing the research towards the internal launch process but stays at competence level leaving out the process what happens internally in companies. (Chiu et al. 2006; Debruyne et al. 2002; Di Benedetto 1999; Kotler et al. 2005; Matikainen et al. 2015; Day 2000, Cooper 1979, 1983). In addition, the internal new product launch is seen as a crucial part of product development processes and its importance is mostly associated with external factors of an organisation rather than what happens internally in organisations in regard of the new product launch (Kotler et al. 2005; Beard & Easingwood 1996; Gatignon et al. 2016). This study is a strong indication of the key elements of internally important issues in regard of new

product launch as it can be firmly concluded that internal information flow and finding correct people to do the work are critical aspects in relation to the process. In addition, the development processes of the process model and information map shows strongly the key elements, which are seen important within internal launch process: information flow, actors, and activities.

Moreover, it can be concluded that this study with its practical solutions promotes change management success. Previous research concludes that changes, which succeeded were brought through aligning tasks at a unit level or departmental level and were then spread across the organisation in an integrated and aligned manner through a bottom-up approach (Sikdar & Payyazhi 2014). This can be clearly identified from the study as explained earlier, constructive research method has brought together the individuals from the organisation, which integrates in the process model and information map. Moreover, the information map represents a support system for dealing with the subject process and promotes information and knowledge sharing across the organisation. Additionally, there are multiple techniques used to integrate and inform the change across the organisation as identified in the chapter 5.2.

The developed process model and information map are targeted to solve the practical problems identified by the case organisation: information cuts, misunderstandings, undone tasks, undefined process responsibilities, uncommunication between process participants. Based on the chapters 5 and 6, it can be concluded that the objectives and goals were met as extensively as the research could go. As the testing and implementing parts are delimited from the study, in-depth analysis of the overall successfulness cannot be made. Still it can be concluded that the process model prevents the information cuts, misunderstandings, undone tasks to happen in the future if the process model is followed whereas the information defines the responsibilities and promoted communication between the participants.

6.2 Critical assessment

One of the biggest challenges of BPM according to Becker et al. (2000) is that the process modellers are putting out models that are not targeted to the average personnel but for specialist, with very narrow audience. To overcome the challenge or possible threat, according to Becker et al. (2000), BPM should enable a platform for all participants to interact and communicate and specially to understand the actual model. In that sense, this thesis work has succeeded as the whole process was done jointly with a project team from the “customer” of the work consisting from the userbase of the actual process. Furthermore, the usability of the actual model was highlighted by establishing different layers to widen the usability of the model for different purposes. But still it need to be bared in mind that the realities of the target of the process model is not same for the whole audience and user base. As Browning et al. (2005) have argued, the process modelling has two realities: “the way work really gets done” and “the way should get done”, meaning that whatever is the target of the project, the users might use the actual process model for two different purposes. It might mean that there is always a risk of misinterpretation.

When looking into the results of this research project, it is not easy to evaluate the functionality of the tool and process model as they should be tested in action and as the process is information based and not based on tangible aspects, measuring becomes even more difficult (Labro & Tuomela 2003). In addition, as the study is conducted in a company, the revealed outcome of the study in terms of the model and information map might be affected by company secrecy as all details might not be able to be revealed and it needs to be taken into account. However, Davenport (1992, 6) argues, “Processes that are clearly structured are amenable to measurement in a variety of dimensions. Such processes can be measured in terms of the time and cost associated with their execution. Their outputs and inputs can be assessed in terms of usefulness, consistency, variability, freedom from defects, and numerous other factors.” Taken these arguments into account, the process model can be seen also not flexible and not well structured. However, it can be simultaneously said that the real-life situations do not often meet with the theory either. Still, it can be also said that constructive research method itself is seen as a bridge between theory and practise to provide theoretically

justified solution to a practical problem (Labro & Tuomela 2003). It is also argued that scientific research solves problems and poses new ones, which the constructive research method, the research analysis and the discussion of this study are supporting (Sitonen 1984, in Kasanen et al. 1993).

Scarborough (2003, 511) explained through his research that reasons why knowledge management fails in innovation processes are: “a little interaction between top management and the developers and users of intranet systems. Knowledge exchange took place only at business division level and not between divisions. Intra-organizational networks were sparse and ineffective.” These findings can be seen as examples of threat for the outcome of this study, the process model and the map if they are not implemented in knowledge and sharing level in the organisation.

Tsai (2001) argues that, all the units in organisations cannot learn and absorb knowledge from each other due to a lack of resources, skills or system base. It may be a threat to the new process model. The model to work in action, even that it is implemented properly, the process model clearly needs all the parties’ co-operation in order to meet the desired end-result. If the needed parties are not able to access the needed knowledge, the process cannot function. Also, the different departments and individuals need to possess the absorptive capacity to handle the information and to distribute it within the process.

As the chapters 1.4. and 2.3. indicate, from the theory there can be found various proposals, examples, and models how to succeed with change processes but also reasons for failure. There is not “one fits all” type of an answer for succeeding in organisational change, which justify the fact that in the case organisation the success of this project as a change process cannot be predicted beforehand. It also reflects to the fact that solid advices unfortunately cannot be given. Still, future development areas can be pointed out with justifications in the means of this research and from the viewpoint how the organisations could benefit.

It is argued that researches conducted with constructive research method cannot be thoroughly validated without implementation process as a part of the research (Labro & Tuomela

2003). Also, testing the developed construct is seen as significant part of the constructive research method (Kasanen et al. 1993). But, as delimitations needed to be drawn from the research point of view and the case organisation's point of view, the testing and implementation processes were chosen to be delimited. Still, it does not delimit the importance of the implementation process, which is further discussed in the chapter 6.5. The usage of constructive research method brings more attention to it in research field as it is not generally very known (Labro & Tuomela 2003). Also, the usage of constructive research method in case studies is acknowledged already by scholars (Labro & Tuomela 2003). From the research point of view as a researcher very objective assessment of conducting the research I cannot argue as there is always the issue of subjectivity. But as the chapter 3.4. states, I have acknowledged my reflexive nature as a research towards conducting the research as well as towards the outcome of it.

6.3 Applications of the study

According to Niiniluoto (1985, in Kasanen et al. 1993) scientific problem solving does not necessarily create scientific importance as the issue of the problems studied to be too practical. However, Kasanen et al. (1993) argue that even with practical real-life problems, such studies have scientific relevance as the solutions are developed with scientific sources and reasoning. As this research is conducted with constructive research method, the emphasis is on managerial applicability as the target is to solve practical problem. However, the existent discussed research gap with justifications implies scientific applications. Moreover, outside this construction other interesting information can be found based on the research, which have stronger theoretical and scientifically applicability.

Through the research project, implications can be identified that it is not unusual that organisations can have simultaneously multiple processes, which exist and are operated but are not modelled. This conclusion is drawn from the research project itself as the subject process has been operating at the case organisation even that it not modelled. Based on background discussions, the criticality of the process to the organisation is one key influencer why the process model is not existing. The criticality needs to be assessed in the organisation as the

organisation must prioritise development processes due to limited resources (here: time, people). Evidently, lack of resources is another identified key influencer.

Also, it was indicated by the research group that all the parties were not aware of the functionality of the subject process or at least what role different actors play in it. There are also implications that no matter what is the process or the company, the lack of modelling (definition, workflow, tasks, participants) can cause same problems as identified in the case organisation of this study. It is identified that cross-functional integration is important for business process to function (Olson et al. 2001). Previous research shows also that crossing organisational and departmental barriers is vital to understand prevent undone tasks and redone tasks, as well as understanding one's own work in relation to others'. Cross-functional communication and understanding are also seen as the keys to learn and exchange organisation internal knowledge. (Tsai's 2001, Sivadas et al. 2000)

It can be argued that this study provides managerial applications widely to business world and does not limit to single organisation case. As Kasanen et al. (1993, 256) argue that "after designing a working managerial construction, we may begin to consider what are the more general features which are revealed by the creation of a new reality." The BPM and the information map can be taken as examples of how to build existing processes into illustrations to be used in information intensive processes and working with people in larger organisations. It can be also concluded that the process modelling aspects do not limit to the case organisation as the industry, geographical location or the content of the information in the BPM are not relevant to the research but rather just background information.

Support for such arguments can be also found from workflow management and change management literatures especially if the results of research questions three (3) and four (4) are taken into closer look. Workflow management literature strongly implies the importance of the flow of the information in regard of the business process to really function (see chapter 2.1.4.). As Bußler & Jablonski (1994) state, workflow needs definition of who does the work, which might not be discussed, taken into account or rising specific attention when modelling processes. But the fact that in this study the aspect of "who" is taken into consideration, the

view might provide new insights to larger audience. Also, the importance of people is much highlighted in this study as they are much seen as the key for success of such case studies as this one with change management involved (Pryor et al. 2008; Sikdar & Payyazhi 2014; Militaru & Zafir 2016). It might help to rise the importance of people and help to steer the attention to the people overall in business world in this era of technologies taking over industries and jobs.

6.4 Research limitations

Nonetheless this research broadens the understanding of the defined research gap, internal aspects of new product launch process in regard of information transfer, some limitations still exist. As it is common with qualitative researches, the research sample is relatively small. With this study, the discussions provide much relatively wide data, the study is still a single case study, which limits the universal conclusions based on the study. Despite that there is profound illustration of the results of the study with the constructions and analysis more investigation is needed within the research subject as the next chapter will impose.

As explained in the chapter 1.6. this research does not aim to evaluate and choose the modelling method or techniques from the existing ones but is set to model the business process at hand with a method suitable for the organisation. The most important present factors were to fit the model to the organisation's ways to work and to the userbase emphasising the usability in-real life business. These issues set the importance to the content, but not the evaluation of the model. It limits the study, but does not limit the process entirely as the framework by Luo & Tung (1999) was taken to the background to justify the modelling method.

It can be said that a gap is left on evaluation of how well functioning the model is in a real-life organisational environment from start to end. Yet, that needs to be researched and evaluated in the longer run once the model is tested and implemented. These realisations reveal that the testing and implementations processes are limited out from the study process and seen as future development and research areas, which are discussed in deeper manner in the

next chapter (6.5.). Testing and implementation processes were consciously limited from the study (as discussed in chapter 1.6.). Moreover, defining and developing control systems were also consciously limited from the study for focusing the research to the most important areas from the case organisation's perspective.

As the case context is a company and the case itself, the process, contains company specific and personal information such as names and internal data, the constructions could not be shown in full extent as they were dealt with within the research project at the organisation. Company secrecy evidently limits in some parts the illustration of the results, research process and analysis.

6.5 Future development areas and recommendations

This chapter is targeting the practical aspects of the research considering the organisation, but also includes existing literature around the issues. The practicality is seen very important issue for the sake of the organisation as this research is seeking solutions to practical problems. Still, it is seen that practical issues determine support from previous research.

The two main areas uncovered by this research in relation to constructive researches and change management issues in relation to the developed process mode and the information map are testing and implementation. As this study does not cover the testing and implementation in research wise or in literature, they should be studied as another case. Previous researches have implied strongly the importance of implementation with anything new, which evidently includes also testing especially in such cases as this research. It is argued that that reinforcement of some sort is a necessary for change to take place in the individual. An organisation can make operational changes but employees do not change as easily. (Pryor et al. 2008, 6). To conclude, the testing environment should be created to test the process model in action with the supporting information map and after that both should be implemented to the organisation. These aspects may require further studies from the organisation.

Business process implementation is highly connected to change implementation in this case as the model of the business process is developed and that should be implemented in the organisation, which means simultaneously changes on how people work. Even that the implementation process is a set of new research with wide literature especially in this multi-faced context, there are some recommendations detected already for the case organisation to act towards. Marinescu (2003, in Militaru & Zafir 2016, 55) has identified the following step wise action plan:

- “Define the factors for change
- Recognise the need for change, both at management level and at the level of executive
- Make a diagnosis analysis on issues that involve in the change
- Identify the methods or how to make change and determining how to implement it (This stage has a high degree of importance as it involves the selection of the most convenient ways to support the organizational change.)
- Defeat the resistance to change
- Effectively implement the change
- Evaluate the results obtained from the process of implementing an organizational change”

Even that the research analysis notes change management success, there are still suggestions what organisations should do to steer the change success. It is argued that management should raise awareness and understanding of the upcoming change and its reasons, take feedback and listen to the employees to avoid resistance to change, create motivational programs and involve the employees into the change process with avoiding hierarchy. (Militaru & Zafir 2016). In addition, reward systems are seen very important get personnel to react on sharing knowledge within the organisation, teams etc. (Scarborough 2003).

7 SUMMARY

This chapter summarises the research at hand by concluding the most important parts, findings and lessons learned from the research. Key issues of the study, most important of theoretical findings and research findings are much present in the chapter. The chapter highlights the parts of the study, which are seen the most important to be recapped.

From bigger picture, strategy importance and market success cannot be highlight enough when it comes to organisational success by literature and researches at hand nowadays. Internal new product launch is a crucial part of product development processes and marketing strategy. Also, people have been highlighted as important factor with organisational success, for example in regard of cross-functional integration. Companies should form actual cross-functional teams from the employees and different managers to succeed. As the existing research on NPD and launch literature indicates, there are strong implications towards process thinking by highlighting importance of well-planned actions and strategies to succeed in them.

Process thinking strives organisations towards efficiency and structured sequences of tasks, which can be automated and saves costs. Even so, people are the key ingredient of processes still today. Processes should be modelled in the way that they can be communicated and implemented even organisation wide across different departments. They should be flexible enough to be able to change easily once needed. Processes and process models need to have owners, actors with key skills and knowledge base, well defined structure to fit the organisations user base and functioning information flow.

When modelling processes, there are indications of the importance to choose the modelling method carefully. There are implications from theories, that it is important to choose the method to fit it to the organisation and to choosing the method based on an existing example e.g. the framework by Luo & Tung (1999) or generic structure model by Lin et al. (2002). In organisation environment with real-life situations constructive research method is most probably the one organisations use unknowingly. Constructive research method is beneficial

with modelling projects because it is creating a link between theoretical surroundings and practical problems. As seen from this study, it is beneficial to have theoretical proof for the actions taken when modelling a process in order to take into consideration as many of the business process elements as possible.

It should never be left without attention that the process model needs long time period in order to be actually established and functioning in real-life situation. Process models should have time for testing and after it the implementation process should occur. Even that in this research the implementation was limited out from the project and given as a future task to the case organisation, it can be argued that without implementation the modelling project has been for nothing and waste of resources. If the implementation is not conducted the model will not be known and in result not used.

The following sentence is perfect for summarising the key idea and the most important lesson learned from this research and the whole project:

“Processes are networks, not chains.” (Negele 1998 in Browning et al. 2005, 109)

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APPENDICES

Appendix I: Data collection plan

Time line is 3 months, pre-set by the case organisation.

Research group consist from 5 permanent members, pre-set by the case organisation. The research group participants consist mainly from the managers of the departments, which are seen participating to the subject process.

The plan to form answers to the research questions is shown also in the data collection plan. As the chapters 2 and 3 have shown, process modelling development process is seen as complex and taking much from the sources (time, people), which resembles to the pace of how many constructions it is seen to take to get answers to the research questions.

At the starting point of the research project, a project team discussion is held to launch the project to discuss insights of the research outline, determine the project members if someone is missing from the present members by the organisation. Importance of process participant departments is highlighted and involvement of the departments to the process is planned. The knowledge intensive persons from the organisation's external parties (country offices) are determined.

Data collection for purposes of the process model development

No ready provided data.

1. Background discussions are held with the project teams' members and their departments and with other process participants (persons or departments) to determine the initial state of the process and starting point of the research - All together 7 discussions are held
2. 1st construction of the process model is created based on the background discussions
→ Feedback and comments from the project team will follow

- *The 1st construction seeks preliminary state answer to the 1st, 2nd and 3rd sub research questions*
- 3. 2nd construction of the process model is created based on comments and feedback upon 1st construction → Feedback and comments from the project team will follow
- *The 2nd construction seeks thorough answer to the 2nd sub research question and continues to form further state answer to the 1st and 3rd sub-questions*
- 4. Country office discussions are held with the knowledge intensive persons grouped according to the information systems used at the country offices at EMEA level and the experience with the process as a “customer” of the process - All together 3 discussions are held
- *Country office discussions seek deeper understanding to the 1st and 3rd sub research questions but aims to find external triggers to develop the constructions further*
- 5. 3rd version of the process model is created based on comments and feedback on the 2nd construction → Feedback and comments from the project team will follow
- *The 3rd construction seeks thorough answer to 1st and 3rd sub research questions*
- 6. Final process description is created based on thorough discussion analysis during the whole development process and comments on the 3rd construction
- *The final construction seeks also to ease the targeted commitment process*

Data collection plan for the purposes of the information map

Relies also on given ready data from the company. The information map mirrors the process description.

- *Information map as a whole, answers to the 4th sub research question and seeks additional insights to the 2nd sub-question*
 1. 1st construction is created based on the given data to describe the preliminary version → Feedback and comments from the project team will follow
 2. 2nd construction is created by putting together the project team’s ideas of the tasks and responsibilities and by reflecting to the process model, the layout is

put together based on the comments and feedback of the 1st construction. The 2nd construction is intended to be the last version before the final settings → Feedback and comments from the project team will follow

3. Final version is created based on the comments and feedback of the 2nd construction highlighting a discussion with the project team on the usability of the map and the final comments for content and divided tasks displayed in the information map.

Appendix II: Data collection process and analysis

As the Appendix I describes the data collection plan, the Appendix II describes the occurred data collection process in developing the research findings. Thematic networks are created based on the research findings. Ready given data is used to understand the unmodeled process as a background information for launching the research project and in developing the information map constructions. The ready given data of the process consisted an identification of broad process steps and involving departments of the process identified by the process owner (department). The given data by the case organisation for information map purposes consisted from a database of persons with the organisation to identify the skills of the personnel for the information map.

The permanent research group consists from 5 participants. The 5 pre-set members of the research group represent the knowledge intensive persons seen by the case organisation. All the members are from different departments. Table 6. is listing all the discussions and participants of each discussion. The information of the discussions is not shown in deep manner for individual and company information protection reasons. The number of the participants of each discussion does not show the relevance of the content of the discussion but rather as the number of knowledge intensive persons participating to the discussions.

Process modelling purposes	Information map purposes	Duration 30-90 min
<ul style="list-style-type: none"> • 7 background discussions <ul style="list-style-type: none"> • Department A: 3 participants • Department B: 1 participant • Department C: 2 participants • Department D: 1 participant • Department E: 2 participants • Department F: 2 participants • Department G: 2 participants • 1st construction feedback/comments <ul style="list-style-type: none"> • Research group: 5/5 participants • 2nd construction feedback/comments <ul style="list-style-type: none"> • Research group: 4/5 participants • Country office discussions: 1 participant • 3rd construction feedback/comments <ul style="list-style-type: none"> • Research group: 4/5 participants 	<ul style="list-style-type: none"> • 1st construction feedback/comments <ul style="list-style-type: none"> • Research group: 2/5 participants • 2nd construction feedback/comments <ul style="list-style-type: none"> • Research group: 4/5 participants 	

Table 6. Group discussions' specification

The analysis method of thematic networks is used for grouping the discussion into areas based on the content of the discussion. The acknowledged areas are then broken into parts to incorporate them to the constructions. Tables 3.-5. are showing as the results of the thematic networks analysis method by showing the most rising issues of the discussions in relation to each construction. The Figure 12. is showing the thematic networks analysis method in actions by an example. The Figure 12. shows the discussions and research questions at hand in the middle, the broader grouped themes of the discussion and then the grouped themes broken into parts.

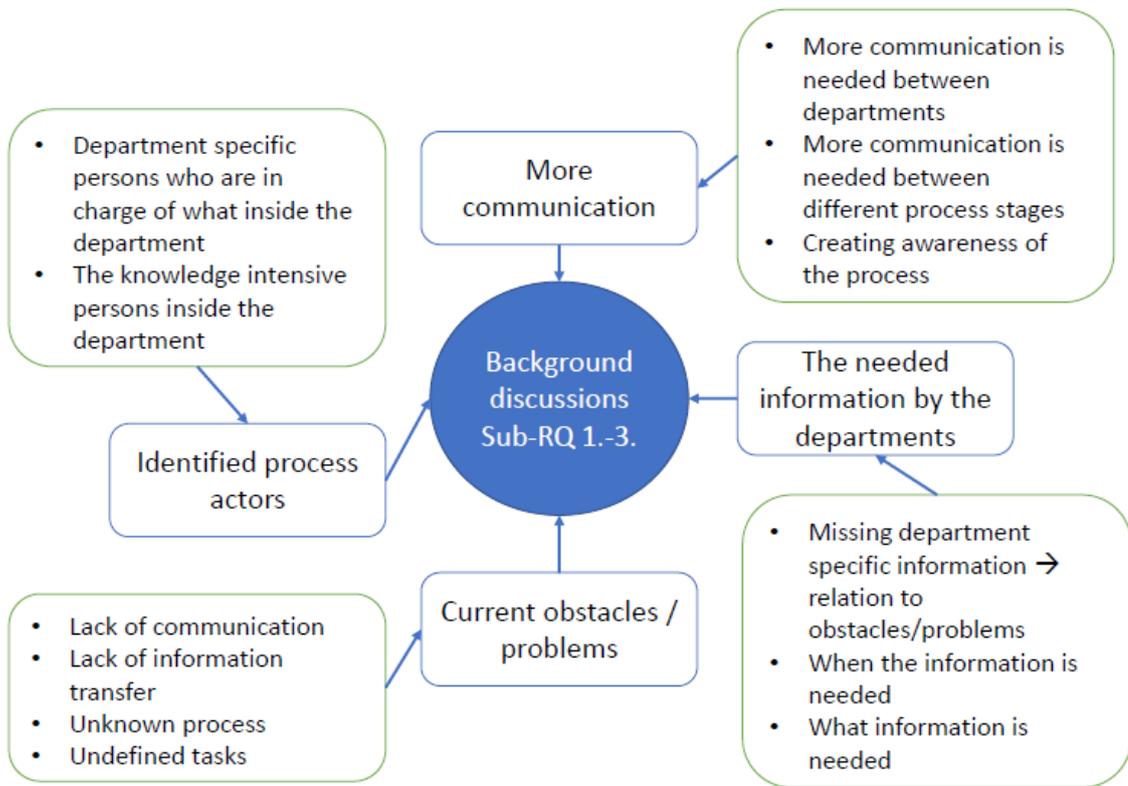


Figure 12. Thematic networks method, example