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Improved Operating Model for the Development Function of In-house Logistics Service Provider

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The spring of 2016 has passed quickly. Prior to the thesis work there has been positively busy times at work and at the same time several other changes on my civil life such as moving to our new home. My thesis process has gone well as I have had great support from the school, from the company and from my relatives. They all have given me lots of energy to finalize this thesis work.

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This study introduces the improved operating model for the Development function of the case company. Currently, The Development function consists of several Development teams operating in different business units around Finland. Each Development team has their own expertise and own ways of improving processes. However, this current dispersion causes problems in many levels. The study reveals that the Development function lacks common goals and the roles are unclear. In addition to that, best practise is not shared sufficiently between the Development teams. These challenges have been recognized by the key stakeholders. This study was initiated to address these challenges.

This study is conducted in four phases. First, the weaknesses and strengths in the current processes were identified with the help of Development employees and other key stakeholders. Next, best practice was gathered from existing knowledge in order to form a framework for improving the operating model. Third, the initial proposal for the operating model was crafted with help of Development employees. Finally, the initial proposal was validated and refined according to the feedback of Development Director and Business Director.

The outcome of this study is the improved operating model aiming to address the key weaknesses discovered during the current state analysis. The improved operating model is a combination of three building blocks: the strategy, the key processes and the individual roles. The first building block includes the Business-in-a-Business strategy striving to provide clear goals for the Development employees. The second building block includes the key processes and the key stakeholder expectations. The key processes will unify the current diverse processes and thus enable a better cooperation and increased proactivity. The third building block includes individual roles related to the key processes defined by using the RACI-matrix. The individual roles aim to improve the flow of work by clarifying the responsibilities related to the key processes.

The proposal for the improved operating model for the Development function is reviewed and validated by the key stakeholders of the case company. The next step is to implement the building blocks into the existing operations.

Keywords	Development Function, Operating Model, Strategy Map, Key Process Definition, Roles and Responsibilities

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1   Introduction

This thesis focuses on proposing the improved operating model for the case company's Development function. Currently, its Development function consists of several Development teams which are working in various business units around Finland. All the teams have different backgrounds, their own ways of working and their own expertise. In addition to that, the case company has recently bought another company, which has a Development function of its own. This dispersion causes inefficiency to the Development function. This challenge has been recognized by the top management of the case company and it started organizing the Development function. One of the main challenges in the ongoing integration is the absence of common operating model for the future unit.

1.1   Case Company Background

The case company of this thesis is Finland's largest operator in in-house logistics. More specifically, the company offers warehouse, terminal and industrial services for industrial and logistics companies. Logistics services include operations such as reception, put-a-way, picking and loading. In addition to that, the company is also offering value adding services such as kitting, packing, repacking and forwarding. Packages are produced in the own packing manufactory lines of the case company which are located mainly in Helsinki metropolitan area and Tampere.

The company currently employs more than 2000 people and the revenue is over 100 million euros. The case company has had aggressive generic growth since it was founded in 1994. At the beginning, the company offered work force mainly for terminal operations but the business quickly expanded to many other services such as warehousing and packaging. In the year 2014, the case company made its first horizontal integration by acquiring the entire share capital of a similar company. The acquired company was the major in-house logistics and packaging operator in the industrial sector.

Today, the company consists of three major business units which are Terminal services, Warehousing services and Industrial services. Apart from the Financial management and Sales function, each business unit currently has their own business organization.

1.2   Business Challenge

To provide value for the customer, each business unit has recognized the need to improve the operational efficiency and thus has formed small Development teams to address this challenge. The Development teams have achieved success locally. However, it has recently been recognized that dispersion causes inefficiency to the Development function as a whole. The Development employees do not have common goals to guide their work and the individual role of development employee is not clear enough. In addition to that, each Development team serving in different business units has their own processes which are in no way connected to one another. As the Development teams do not have clear common processes to follow, the use of resources is ineffective and the best practice is not shared sufficiently.

Customers of the case company have also highlighted the need of greater contribution to the operative development. During year 2015, the case company participated in a Tekes funded VTT survey targeting "to increase knowledge and competencies for a customer-centric industrial service business" (Taru Sopanen, Markus Jähi, 2015). During the first phases of the survey, VTT carried out customer analysis. VTT extensively interviewed customers of the case company and the results showed a need to improve operative development. Customers hoped to see more proactive approach to development and more effective distribution of the best practice.

To improve this situation, the case company started integrating the Development teams under one Development function at the end of year 2015. During the integration process, it has been recognized that the Development function cannot reach its full potential if there are no common ways of managing units and the best practices are not shared enough. More specifically new Development function needs an improved operating model.

1.3   Objective and Scope

Objective of this thesis is to propose an improved operating model for the Development function of the case company. This is done by collecting best practice, development suggestions and challenges of the current Development teams. The goal is to involve as many Development employees as possible in different Development teams.

The scope of this thesis covers the proposal for the Development function, which is one function of the case company. The proposal is chosen to incorporate the goals, the key processes and the roles of the Development function. This thesis does not include implementation of the improvements, as it would require a vast amount of time since the final operative model should be piloted and members of Development function should be trained for the new model. This study is thus planned to be completed with the proposal for such implementation.

This thesis is carried out as a qualitative case study. Thesis consists of seven sections. First, Section 1 introduces the case company, its business challenge, objective and planned outcome. Section 2 describes the methods and material used to structure this study. In section 3, the current way of running the Development function is analyzed. Section 4 discusses existing knowledge related to improving operative model in business organizations. Section 5 describes how the initial proposal for the Development function was formed by using key findings of current state analysis, existing knowledge and relevant suggestions from the Development employees as a building material. In section 6, the initial proposal is presented to key stakeholders in validation meeting and feedback gathered is used to finalize the improved operating model. Last section 7, summarizes the results and evaluate how the reliability and validity was realized.

2 Method and Material

This section describes how this research is executed. Section starts by describing the research approach, secondly it introduces the research design, thirdly it explains how the data was collected and analyzed. This section ends by describing how the validity and reliability of this study is ensured.

2.1 Research Approach

The research approach of this study is an exploratory case study and it is qualitative in its nature. According to Eriksson and Kovalainen (2008: 4-5) a qualitative strategy is typically interested in the interpretation and understanding. In addition to that, the data collected and analysed in qualitative studies is often context sensitive and aims at a holistic understanding of the issue.

The case study is especially suitable if the research question is "how" or "why", it relates to the present time and researcher has little control to event. (Yin, 2002: 9). The case study typically relies on multiple data sources and usually uses theoretical proposition to guide data collection and analysis (Yin, 2002: 14). However, creating theoretical proposition is not necessary if the research is exploratory. Exploratory case study is striving to explore the topic of the research in its context. Therefore, there is no already pre-supposed proposition of the end result. As there is no proposition to state the purpose of the topic, there should be a clear research design made, which will serve as a purpose and also as criteria of the study. (Yin, 2002: 22)

This study is striving to understand what kind of operating model will be suitable for the development function and the data collected is context sensitive as it relates mainly to the case company. This study aims to answer how the operating model of the case company can be improved and there is no already made proposition of what kind of operating model would be the best for its Development function. As there is no proposition, research design will guide the data collection and analysis. The detailed research design is presented in the next sub-section.

2.2   Research Design

The research design shows the path decided to be taken in order to accomplish this study. In this study, the research path is divided into five phases which are the research objective, the current state analysis, the existing knowledge, the initial proposal crafting phase and finally the evaluation of the initial proposal. These five phases and three data collection rounds are illustrated in Figure 1 below.

Research Objective:
Proposal of an improved operating model for Development function

Current State Analysis
-Description of current organization
-Analysis of current strengths & weaknesses
-Customer feedback based drivers

Outcome:
Current strengths and weaknesses

Data 1
- Theme interview with Development Director
-Fishbone diagram workshops
- Tekes customer survey

Existing Knowledge
-Existing knowledge on organizing development (corporate) functions

Outcome:
Conceptual framework of this study

Initial proposal
-Initial proposal is created on the base of CSA and existing knowledge

Outcome:
Initial proposal

Data 2
- Theme interviews
- Workshops

Feedback round
-Presenting the initial proposal for key stakeholders

Outcome:
Final proposal

Data 3
- Discussion with key stakeholders

Figure 1. Research design of this study.

As seen in Figure 1 above, the research objective is defined in the first phase. The strategic objectives are discussed with the key internal stakeholders within the case company. This includes directors from the Development, sales and operative management. VTT researchers will also be asked to provide their view to support defining the research objective. The goal is to create clear guidelines for the study. This phase also includes

the creation of research method, research design, data collection methods and plan of validity and reliability. Research design is illustrated in Figure 1 above.

In the second phase, the current state of the Development function is analysed. The analysis starts by creating descriptions of the current Development function. The purpose of the descriptions is to illustrate how the function is currently run. After drafting the description, brainstorming sessions named Fishbone workshop are held for the Development teams. The goal is to collect the strengths and weaknesses of the current operating model. At the end of each Fishbone workshop, the four most significant strengths and weaknesses are formulated.

The current state analysis generates two types of outcomes. The first outcome is the description of the current Development function. The second outcome consists of the current weaknesses and the current strengths. This data provides a foundation for the focused search for available knowledge and subsequently for building the initial proposal. Data is supported with the customer feedback collected by VTT.

In the third phase, best practice for improving an organization's operating model is searched from the existing knowledge. The goal is to find good practices of organizing development or corporate functions and way to present the identified key processes. The results from this stage will guide the creation of the initial proposal.

In the fourth phase, the initial proposal is formulated. The initial proposal is based on the results collected from the current state analysis and supported by the identified best practice which have been studied from the existing knowledge. Development teams and key stakeholders will be involved in initial proposal crafting workshops. All the relevant suggestions and ideas gathered during the meeting are taken into account when initial proposal if formulated.

In the fifth phase, the initial proposal is reviewed in the feedback meeting which is held for the key stake holders. The key stakeholders include Development Director and Business Director. Development Director is the key contributor for this study as the improved operating model is planned to be used in the Development function. Business Director on the other hand is important as most of the services are directed to business units. Feedback collected during the meeting is taken into account when the final proposal is

formed. The final proposal for the operating model is presented to Development Director who will decide whether to implement the model or not.

2.3 Data Collection and Analysis

Data for this study is collected in three different phases. The first phase data is referred as Data 1, the second phase date is referred as Data 2 and the third phase data is referred as Data 3. First, Data 1 is generated during the current state analyses, Data 2 is collected when the initial proposal is built, and the final Data 3 is collected from the feedback round.

All data collection rounds are shown in Table 1 below. Each of the data collection points there can include also sub-points which are separated from each other with a lowercase letter (a, b, c, d).

As seen from Table 1, the first data round is related to the current state analysis. In order to create a well-functioning operating model for the Development function, it is pivotal to create an accurate description of the current state.

Data 1 is derived from four different sources. The first source (Data 1a) is face-to-face interview with Development Director. The information gathered during the meeting is recorded on the field notes which are then used to build process descriptions of the current operations. The descriptions help the participants of this study to get a basic understanding of the current situation in the Development function. The second and third source (Data 1b, Data 1c) are the two brainstorming workshops which are held for the Development teams operating in the different business units. In both of the workshops, Fishbone diagram created. Fishbone diagrams serve as a brainstorming summary including all the strengths and weaknesses which the Development employees bring up. A fishbone diagram is an easy to use brainstorming tool which helps shorting the ideas generated during workshops. Association of Quality (2016) clearly sums up the idea:

> "The fishbone diagram identifies many possible causes for an effect or problem. It can be used to structure a brainstorming session. It immediately sorts ideas into useful categories."

Ahmed and Ahmad (2011: 87) describes Fishbone diagram in a more detailed way. Fishbone diagram helps identifying, sorting and displaying causes of the problem. It illustrates all the identified factors that might affect the problem to emerge. In other words, it graphically illustrates the challenges which are causing the problem. Fishbone diagram and questions that will be addressed are presented in Appendix 1. Data collection 1 is visible among the three rounds of data collection in Table 1 below.

Table 1. Details of data collection (Data 1 - Data 3).

Data collection point	Data source	Content of data collection	Outcome of data collection	Participants	Date & Duration
Current state Analysis					
Data 1 a	Face-to-face interview	Creating description on how the operations the Development function are organized today	**Field notes**	Development Director	2nd February 2016 (1 hour)
Data 1 b	Fishbone workshop	Strengths & weaknesses of the current operating model within Industrial Services	**Brainstorming summary** Strengths & weaknesses of the current operating model	Development Director, Development Manager 1, Development Coordinator, Development employee 1	12th February 2016 (2 hours)
Data 1 c	Fishbone workshop	Strengths & weaknesses of the current operating model within Warehousing and Terminal Services	**Brainstorming summary** Strengths & weaknesses of the current operating model	Development Manager 2, Development employee 2, Development employee 3, Development employee 4	10th February 2016 (2 hours)
Data 1 d	VTT customer survey results	Customer perspective on the Development function	**Summary report** Pros and cons of the case company's service offering	Tekes researchers and key stakeholders	5th October 2015 (3 hours)
Initial Proposal crafting phase					
Data 2 a	Face-to-face interview	Forming the Business-in-a-Business strategy for the Development function	**Field notes**	Development Director	5th April 2016 (1 hour)
Data 2 b	Initial proposal building workshop	Creating the initial proposal for improved operating model	**Brainstorming summary** Draft of the Initial proposal	Development Manager 1, Development Manager 2, Development Coordinator, Development Employee 2, Development Employee 3, Development Employee 4, Development Employee 5	11th April 2016 (2,5 hours)
Feedback round					
Data 3	Feedback theme interviews or workshop	Evaluating the initial proposal of the improved operating model	**Field notes**	Development Director, Business Director	20th April 2016 (1,5 hours)

The fourth source (Data 1d) for the first data round is the VTT customer survey which has been done already by the VTT researchers. VTT is currently conducting a research the purpose of which is to "to increase knowledge and competencies for a customer-centric industrial service business" (Taru Sopanen, Markus Jähi, 2015). The case company is one of the participants of this research. Together with VTT, the case company is seeking ways to improve its service offering. At the beginning of their research, VTT researchers visited several key customers of Industrial Services and analyzed the strengths and weaknesses of current service offering. The outcome of the survey was the summary of which relevant parts are used as a development driver of this study. Finally, all the Data 1 derived from different sources is analyzed to form an understanding of current strength and weaknesses

The second data (Data 2) is obtained from the face-to-face meetings and the workshop which are held during the initial proposal building phase. First, the result of the current state analysis and findings from existing knowledge is studied with the key stakeholders in the face-to-face meeting. The raised ideas and thoughts are gathered to field notes (Data 2a, Data 2b). Next, a workshop is held for all the Development teams. The purpose of the workshop is to craft a draft for an initial proposal. The draft serves as e brainstorming summary of the workshop (Data 2c). The relevant suggestions and ideas are used when building the initial proposal of the improved operating model.

The third data collection is conducted during the feedback and validation round (Data 3). The evaluators of the initial proposal are Development Director and Business Director. The new operating model of the Development function is polished according to the feedback provided during the feedback round. After refining the proposal, Development Director validates the final operative model.

2.4   Validity and Reliability Plan

The research approach and the research design influence significantly on what is the best way to approach validity and reliability (Quinton and Smallbone 2006: 126). Validity and reliability needs to be ensured especially when the research is conducted in a form of qualitative study.

Quinton and Smallbone (2006, 126-129) argue that the most important point about validity is to make the research approach and thinking as clear as possible for the reader. They divide validity into two categories which are internal validity and external validity. Internal validity is assessing whether the results are matching to the original research question and external validity is assessing whether the results can be repeated in other context.

The first aspect of validity, *Internal validity* is especially applicable when the qualitative research approach is used because the vast amount of data in itself is sufficient to elaborate the subject of the study (Quinton and Smallbone 2006, 128). Quinton and Smallbone also point out that if the research is more inductive the matching of original research question and final results is not that major concern. This is because the inductive research approach is more open and pre-conceived expectations should not affect to the end result (Quinton and Smallbone 2006, 128).

The internal validity of this study is planned to be ensured by assuring that the data collected is comprehensive enough. The majority of employees working at the Development function are attending to two fishbone workshops held during the current state analysis. Fishbone workshop is a brainstorming session where all participants will be able to give their opinion about the strengths and weaknesses of current operations. The strengths and weaknesses are gathered into two fishbone diagrams which are serving as a base data for the whole research. In addition to internal data, The VTT customer survey results provide customer point of view to the current state analysis. The customer survey results highlight how the key customers of the case company are experiencing the current operations of the Development function.

 As another measure to improve internal validity, the initial proposal will be crafted on the basis of the current state analysis and existing knowledge. The key stakeholders and the Development employees will be contributing to the initial proposal in several workshops which are held during the initial proposal building phase. When the initial proposal is ready, it will be taken into a feedback round where the key stakeholders will be able to provide the final feedback to the proposal. This final feedback will be used to refine the proposal before it is validated. Thus, a comprehensive amount of data and wide employee engagement will ensure the internal validity of this research.

This study is also inductive in its nature. At the beginning of the research it is not clear what the final result will be. Moreover, this research approaches the outcome as openly as possible. It is not reasonable to estimate the final outcome for the operative model of the Development function if there is currently no defined operating model to compare with. The current state analysis and the feedback of the key stake holders may impact on the final result. Therefore, final result might vary which reduces any presumption and possible the researcher bias as a threat to the quality of the study.

The second aspect of validity is the external validity. The external validity is not the major concern if the research approach is qualitative case study. Quinton and Smallbone (2006: 129) argue that:

> *"Measurement arguably little sense in qualitative research, so it is questionable whether the issue of validity is of concern at all. The use of case studies and small samples makes it hard to generalize from qualitative case studies."*

In this study, *the external validity* is not seen as the key element of ensuring validity as the Development function's operative model is tailored specially for the use in the Development function of the case company and thus it is not applicable to organizations which are organized differently. Thus. the final outcome is largely tailored to the needs of the Development function of the case company.

Reliability is sometimes presented as a way to evaluate if the results can be repeated later on by the same researcher or some other person. This point of view is seen problematic especially in qualitative business and management research as Quinton and Smallbone explains (Quinton and Smallbone 2006, 129):

> *"This definition is problematic in business and management research, as any social context involving people makes replication of research very difficult".*

However, Quinton and Smallbone (2006, 130) provide several examples on how the reliability can be ensured. First, three of those are "using different data sources", "using different data collection tools" and "applying established theory from one area to another"

This study ensures reliability by using examples presented above. Firstly, this research uses several different data sources. During the current state analysis, data is gathered from interviews with Development Director, fishbone workshops and VTT customer survey. In a later stage of this study, data is gathered in several workshops, theme interviews and finally from the feedback and validation round. Secondly, several different data collection tools such as customer survey, fishbone diagram, brainstorming notes and interview notes will be used. Thirdly, best practice for operating model is searched from the existing knowledge. With these actions, the adequate reliability is planned to be achieved.

The realization of validity and reliability will be evaluated in Section 7, at the end of this study.

3 Current State Analysis

This section describes how the Development function is currently formed and which aspects the Development employees feel as strengths or weaknesses of current operations. In addition to the internal views, this section also describes how the key customers of the case company experience the development effort. The strengths and weaknesses identified by the Development employees and the key customers are consolidated at the end of this section.

3.1 Execution of Current State Analysis Stage

The current state analysis was conducted in four phases which are illustrated on Table 1 above (On page 7). The first phase was the theme interview with Development Director. The second and third phases were fishbone workshops held for the Development teams. The last phase is the analysis of the customer survey held by VTT.

The current state analysis started by arranging the theme interview to Development Director. The outcome of this meeting was two process maps of the current development function. The Development function is a relatively new function with no existing process maps of the operations. Because of this, it was decided that two process maps will be created with the help of Development Director. These two illustrations give a basic understanding of the current operations of the Development function and what is the Development function place in the company-wide context. These charts also help Development employees and the key stake holders to understand the current state of the development services. The process maps are also used as a background material during Fishbone workshops. In addition to that, the process maps are seeking to open up the current development operations for the reader of this research. The first process map illustrates how the Development function is managed and the second process map illustrates the current information flow between the Development teams.

Next in the current state analysis stage, there were the Fishbone workshops conducted. The goal of both workshops was to clarify the strengths and weaknesses felt by Development employees towards current operating model. Fishbone diagram was used as a frame for brainstorming. The used frame is attached to Appendix 1.

In order to get a wider perspective to the research, it was pivotal to involve the majority of development personnel at an early stage. The current organization is complex and the overall picture is not reached if only a few of the personnel are interviewed. In addition to that, involving the development personnel helps them to understand the current challenges and reach consensus later on when the initial proposal is built.

The first workshop was held for Warehousing and Terminal services. The researcher and four employees working in Warehousing or Terminal services were attending the first meeting. The workshops of Warehousing and Terminal services were combined because there was only one Development employee participating from Terminal services. It was not regarded as optimal to arrange a workshop only for one person. The second workshop was held for the Development employees operating in Industrial services. Three employees and the researcher attended this workshop. Nine employees out of the eleven full time Development employees participated in the workshops. Participants covered 82 percent of the total development workforce.

In addition to the above mentioned analysis, this research is using the relevant parts of the VTT customer survey results as a background material. The results of the VTT customer survey are presented later on in this research. By comparing similarities and possible supporting ideas, the decided key strengths and weaknesses are more grounded. All the external and internal findings are combined and analyzed in the summary section of the current state analysis.

3.2   Analysis of the Current Development Function

This section introduces two process maps which were built during the face to face meeting with Development director and the researcher. In addition to the process maps, this section introduces the completed fishbone diagrams crafted during Fishbone workshops.

The two process maps were crafted with help of Development Director. The first process map is illustrated in Figure 2 below. It shows how the current operations are managed and how the other functions are interlinked with the Development function. It presents two main principals, Sales managers and Business Directors, which are often requesting the development support. Business Directors are either coordinators or main internal customers of the development, depending on which business unit is in question. Sales managers on the other hand are offering development services to customers thus they sometimes need development support.
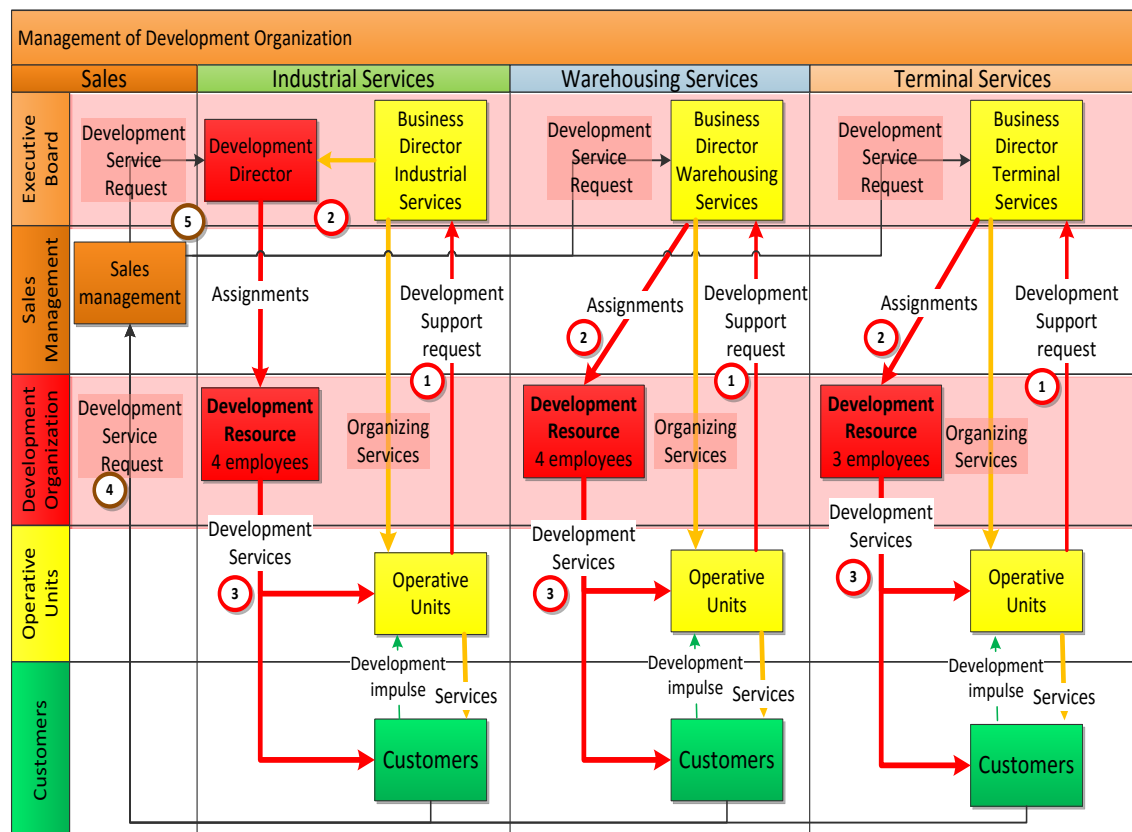
Figure 2. Management of the Development function.

In Figure 2 above, the process of requesting development services is illustrated. The process includes all the three different business units which are separated from each other in three columns. In addition to that, the process includes all the internal functions and the customer which are divided into five rows.

The internal drivers for requesting the development support are often related to the need for improved efficiency or the need for new working methods (Best practice). The

internal support request is divided into three phases (Numbers 1, 2 and 3 in Figure 2 above). In the first phase (1), the operative units or customers recognize a need for the development service and report it to Business Director. In the second phase (2) Business Director decides if there is a need for the Development team or is the improvement achievable with own resources of the operative unit. If not, then the task is transferred to the Development team. In Warehouse and Terminal business units, Business Director decides whether the development resources are used. The practice used in Industrial Services differs lightly from the practices of the other business units. Mid 2015, the case company appointed a Development Director responsible for improving the whole company's development services. Development Director of the case company is directly managing the Development team of Industrial services. Therefore, Business Director of Industrial services is not able to directly decide how the development resources are used but instead has to request support from Development Director. Development Director then decides if the development resources are used. In the third phase (3), the allocated development resource travels to the unit in need for help and starts the addressing the challenges.

The external drives for requesting the development services are related services promoted by the Sales function for the customer. Sales function is offering various consultancy services to customers. These kinds of services are serving as additional service to the existing customers and as loss leader products to the new potential customers. This kind of service request process is divided into two phases (Numbers 4 and 5 in a Figure 2 above). In the first phase, Sales person discovers a development need in operations of the customer and offers the development services of the case company. If the customer is interested, Sales person then requests resources from Development director. In case the development service offered is related to Warehousing or Terminal services, the needed resources are requested from Business Director. In the second phase Development director or Business director arranges the needed resource for the development project and send resources to desired location.

The aforementioned processes simplistically describe the management process of the Development, but it does not explain the challenges related to dispersion of the Development teams. During the crafting stage of the management process map, the greatest challenges of managing the development process were asked from Development Director. In his view, the greatest challenges are related to the complicated organizational

structure of the whole case company. All Development employees are divided strictly to their own business units. Because of this, managing development tasks and resources are proven to be very challenging.

Because of the complex management structure, the information flow within the Development function is not that unambiguous. Figure 3 below illustrates the current information flow between the Development teams operating in the different business units.
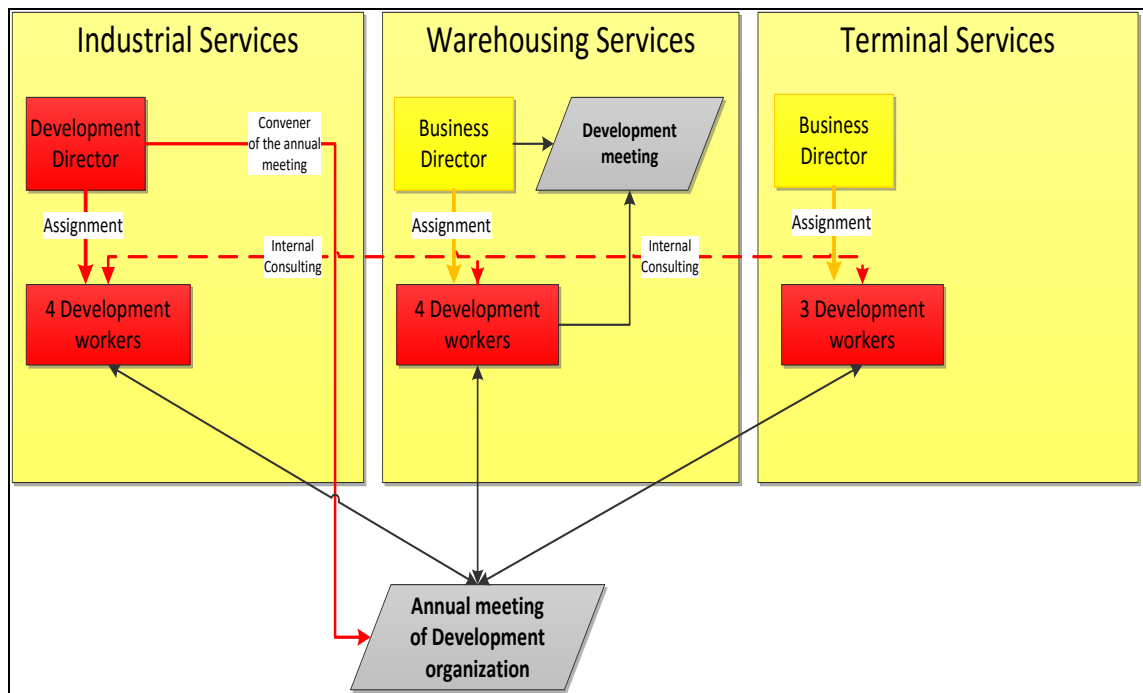
Figure 3. Information flow within the Development function.

As seen in Figure 3 above, Development Director is managing the Development team which is operating in Industrial services. Development Director distributes assignments and shares information to Development teams which again report back to Development Director. In Warehousing and Terminal services Business Directors share similar job description.

The Development teams operating in the different business units are communicating with each other occasionally. The teams are also requesting internal consulting from each other in case they are lacking expertise. The Development team operating in Industrial sector is specialized in Lean operations and is able to provide Lean support to the other teams. On the other hand, the Development team operating in Warehousing

services is specialized in work studies and it is good at measuring the work efficiency. What comes to the development meetings, the Development team in Warehousing services is the only one arranging these kinds of meetings. This is a fairly new meeting practice. The purpose of the meeting is to discuss situation of projects which are currently on hand. The participants of the meeting are Business Director and the member of the Development team.

In addition to the internal development meetings, the Development function has just started a new annual meeting practice aiming to share information about the activities of the other teams. Currently, there is no clear agenda for the meeting but it will be formed as soon as the introduction phase is over. According to Development Director, the gathering and sharing of information is still evolving. All the issues related to information sharing are not discussed yet with the different business units. The greatest challenge and at the same time greatest opportunity is the utilization of the best practice which is found from the current operations.

The defined process maps were used as back up material in Fishbone workshops held for the Development teams. The Development teams brought up several weaknesses and strengths which were compressed in Fishbone diagram. The results of Fishbone workshops are presented in the next two sub-sections.

3.2.1   Description of Strengths and Weaknesses in Warehousing and Terminal Sector

The first Fishbone workshop was held on 10th February for the Development teams operating in Warehousing and Terminal services. The strengths and key weaknesses of Warehousing and Terminal Services are presented in Fishbone illustrated in Figure 4 below. The complete Fishbone diagram including all the strengths and weaknesses identified in the workshop is attached to Appendix 5.

Tools   **Process**   **People**

No standardized best practice

Continuos self development is needed

3D layout drawing

Different units are doing same thinks

There should be more training

Lean principles (5S ja Kaizen)

Organisation and responsibilities are unclear

Management training

"Work-study"-tools

No clear organization

Lean training

Auditing tools of logistics Development function are Working well

5S-implemention standardized

There is need for specialization

No clear goals

Roles are not clear

Specialization needs to be defined

"Small group"-practice Is promising

No clear strategy and goals

Roles and authorization are not clear at company-wide level

IT-specialist for example

Initiative and feedback gathering

Strategy is not implemented to new development organization

Development teams are working in close collaboration with operative functions

Strengths and weaknesses of current development function

There is great need for Information sharing

Information sharing platform for development

M-files might help on this one?

There should be no need to Invent the wheel twice

Material   **Environment**   **Management**

Figure 4. Strengths and weaknesses in Warehousing and Terminal services.

As seen in Figure 4 above, the main weaknesses are coloured red and the strengths are coloured green. The order of the four greatest weaknesses is indicated with numbers (one to four). The employees working in Development teams of Warehousing and Terminal services identified a few strengths and almost all of those were related to the tools that development is using. The employees were especially fond of the development audits, work studies and couple of Lean tools such as 5S and Kaizen. In addition to these highly valued tools, the employees also highlighted the good practice of working closely together with the operative units. They felt that development needs should be prioritized by the operative management as operative management has the best knowledge of customer needs. The employees also pointed out that in order to work effectively it is important to know well the people working in the operative units as it makes the selling of the development ideas easier.

In addition to the current strengths, the Development employees of Warehousing and Terminal services were asked to identify the top weaknesses of all the weaknesses impacting the Development function operations. From the employee's point of view, the greatest challenge of the new Development function is the lack of well-defined strategy. They felt that development is not striving to reach a common goal at the moment. The common objectives were seen important because those would allow the employees to

see what is being achieved, what the focus areas are and what mail stones should be achieved in the future.

The unclear organizational structure of the Development function was seen as the second most significant challenge. The Development function of the case company is quite a new concept. The roles and responsibilities are not that well defined yet. The Development employees did not know how the new Development function is affecting their work and what their role in the Development function is. In Terminal business unit, the whole development function is quite new and development is still looking for its place. The Development employees of Terminal unit are still looking for ways to develop their operations. One employee from Terminal unit clarified their situation by telling that they do not know what is their position compared to other internal organizations. They do not know if they have managerial decision making power or if they are just internal consultants of the operative units.

The lack of proper training was seen as the third biggest challenge for the Development function at Warehousing and Terminal services. The employees argued that the customer demands have grown during the past couple of years and especially the customers of Warehousing services have begun to require a greater contribution from the Development function of the case company. The Development employees have noticed a growing need for Lean thinking and the expectations towards in-depth specialization for logistics IT-systems. All the participants agreed that there should be some form of definition of what kind of expertise the Development function needs in the future.

The fourth highlighted problem was the lack of information sharing. Several employees pointed out that information is not sufficiently passed throughout the Development function. The employees hoped to see information about projects currently in progress and information about possible upcoming projects. They also pointed out that there should be a common data base for the completed projects so that everyone could benefit of the best practice learned during the project. A common information and document sharing platform was suggested for the use of the Development function.

Summing up, during the first fishbone workshop several strengths and weaknesses were found. Most of the strengths were related to the development tools which can be used to improve the efficiency of operative units. The weaknesses were mostly related to the

lack of goal and structure of the Development function. The nonexistent information sharing and the lack of training was also included to the top four challenges. The next section will be introducing the results of the second workshop which was held for the Development employees of Industrial services.

3.2.2   Description of Strengths and Weaknesses in Industrial Sector

The second fishbone workshop was held in 12th February and it was held for the Development team of Industrial services. Similarly to the earlier wishbone workshop, the strengths and top weaknesses were identified at the end of the workshop. The strengths and weaknesses are illustrated in Figure 5 below. A complete Fishbone diagram which includes all the rest of the strengths and weaknesses is attached to Appendix 6.

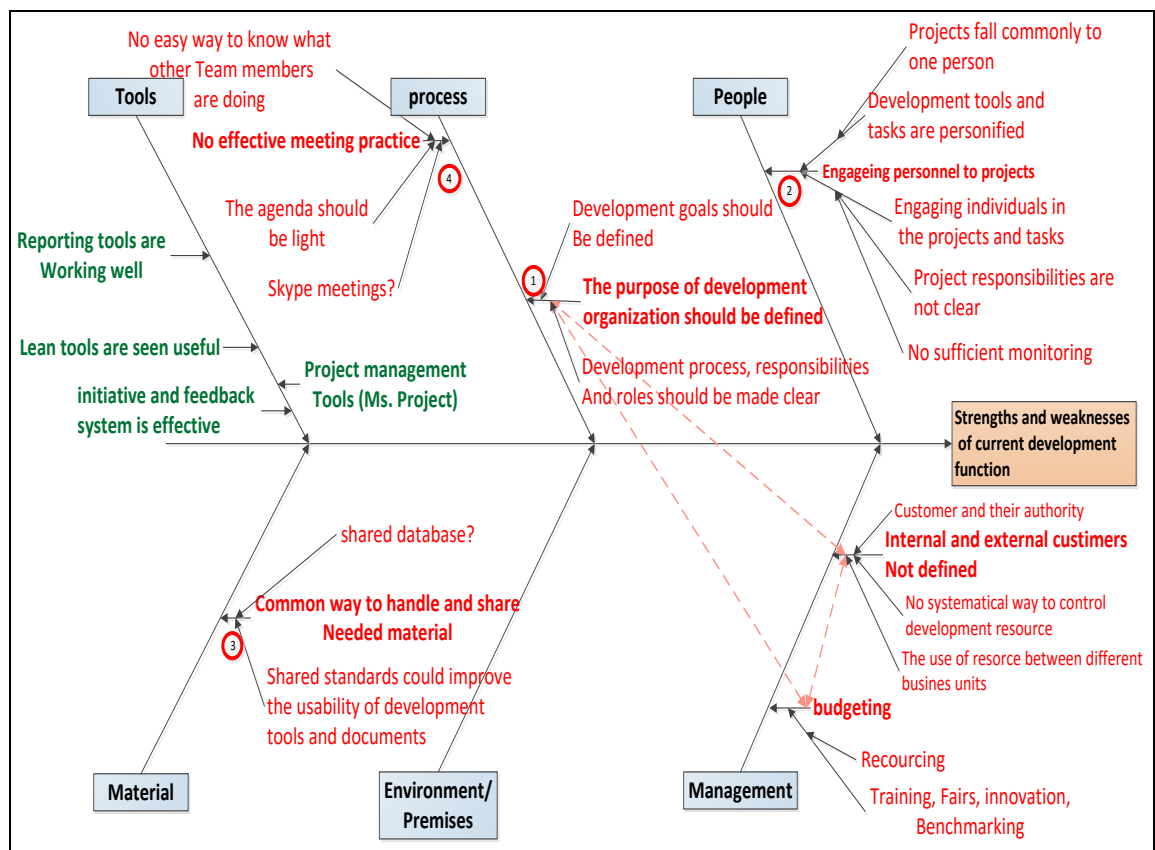Figure 5. Strengths and weaknesses in Industrial services.

As seen in Figure 5 above, the Development function of Industrial services also brought up several tools as their strengths. The tools which were proven good were quite similar to the tools highlighted in Warehousing and Terminal workshop. Lean tools were popular also in this workshop. It was pointed out that Lean tools are easy to use and they are

also in an interest of the customers. Similarly, to Warehouse and Terminal employees, also the employees of Industrial Services were gathering initiatives and feedback. Industrial services are using system called Toyme where all the initiatives and feedback are recorded. The other successful tools recognized were PDCA-project reporting tool and Microsoft Project-scheduling tool. PDCA (Plan, Do, Check, Act) project reporting tool has simplified the reporting process and provided clear phases for the project. Microsoft Project on the other hand has improved the scheduling of the project.

Similarly to the first workshop, the participants of Industrial services were asked to identify the four greatest challenges of all the identified challenges in development. The result was not that far from the first workshop. From the Industrial service's point of view, the greatest challenge was the lack of the clear purpose of the Development function. The Development team of industrial services highlighted that before the Development function can start refining their operations, the development needs should be defined. After that, the next logical steps would be the definition of the roles, responsibilities and goals. To go with the greatest challenge, the Development team also brought up couple of management related problems, linked to the definition of the needed resource. Firstly, there are several internal and external customers which are requiring for the development services (Sales, Operative Units and Customers), but there is no way to prioritize the request. This often leads to a point where the Development team is torn in all directions at the same time. Secondly, it was brought up that there is no budgeting for the Development function. In order to have sufficient amount of properly trained recourses available there should be a budged for maintaining the Development function. However, it was noticed that in order to create a reasonable budget, the roles and responsibilities related to development should be defined.

The second greatest weakness for the Development team of the Industrial services was the people engagement. The employees felt that, often large development projects are delegated to them, but the employees pivotal for the projects are not engaged. This sometimes leaves the Development employees in a difficult situation where he has to do the project with just a little help or completely alone. The roles and responsibilities are often roughly defined at the beginning but not deployed. Projects are also lacking follow up meetings.

The third highlighted weakness was the lack of common ways to share and handle information. The problematics were similar to the fourth greatest challenge of the first workshop. Teams operating in different units do not have access to information or tools used by the other Development teams. The lack of shared information causes double work and learned best practices do not spread out. The Development employees of Industrial services suggested that there should be some common platform where the whole Development function can share information and tools.

The fourth biggest challenge for the Development team of Industrial services was the inadequate meeting practices. There are several meetings concerning the development projects on hand but currently no dedicated meeting practice for the Development function. The employees of felt that there is no sufficient channel for sharing information and the learned best practice. They neither did not know what kind of projects other employees were doing. The employees pointed out that if the information about the current projects and tasks would be commonly shared in a meeting, it could help balancing the work load.

The results of the second workshop have several similarities to the first workshop. The Development employees of Industrial services also appreciated the current development tools. However, the tools were from some parts different to those identified in the first workshop. The two of the top four weaknesses, the unclear purpose of the Development function and the absence of common information sharing platform, go hand in hand with the weaknesses identified in the first workshop. The insufficient people engagement practice and the undefined meeting practice were also included into the top four weaknesses of the second workshop.

All the strengths and weaknesses collected during the theme interview and fishbone workshops were compared with customer feedback gathered by VTT. Customer feedback is presented in the next section.

3.3 Customer Feedback Based Development Drivers

In addition to the internal current state analysis, VTT conducted a customer survey for 15 long-term, new and lost customers. Results of the customer survey are summarized and categorized under four specific headlines which were adapted from the customer

survey report of Taru Sopanen and Markus Jähi (2015). The summarized results are presented in the table below.

Market Sensing	Development
• Reliable operator • Not seen as particularly innovative	• Flexibility and effectiveness has improved • Expectations related to development has been higher • More ideas and best practice are needed • More proactive approach to development
Delivery	**Sales**
• Skilled and motivated employees • Communication between the customer and the supplier is working well	• Development function is not well enough advertised

Figure 6. Relevant feedback from the VTT customer survey (Sopanen, Jähi, 2015).

As seen in Figure 6 above, the challenges related to the development are colored red. The comments related to the other functions are removed from Figure 6.

In the market sensing category, there was one subject which is reflecting also in the Development function. The customers felt that even though the case company is delivering reliable processes, they should also be more innovative. The customers hoped to see more new ideas related to logistics as they see the case company as a logistics specialist.

The development category is very important category when it comes to this study as this category is concentrating purely on challenges related to the Development operations. This was also the category where the customers hoped to see the most improvement. Even though the customers noticed that flexibility and effectiveness has improved recently the effort for the continuous improvement was not recognized. The customers felt that they get development support when the problem appears but they wanted to see

the Development function which could constantly improve the performance of operations. They also hoped to see more new ideas and best practice that the case company has learned when operating with variety of customers in different business areas. Overall the customers felt, that the suppliers should take more responsibility of developing the operations transferred to them.

One development related comment was also brought up in the Sales section. The customers pointed out that the case company should promote more the development services available. Customers argued that they have not internalized all the services that the development function of the case company is able to provide. Some of the customer did not know at all how the Development function of the case company operates.

Many of the weaknesses identified by the customer were not brought up during the internal meetings. Information provided by the customer plays important role when the improved operating model for the Development function is crafted. In the next section, the key findings from the internal workshops, the internal interviews and the customer survey are summarized.

3.4   Summary of the Development Function Strengths and Weaknesses

The current state analysis strived to capture the current state from three different perspectives. The first input came from the development director during the crafting stage of the process maps. The second input came from the workers during the fishbone workshops, and the last input came from the customers in a form of VTT customer survey results. From all the identified weaknesses and strengths, the most relevant to building the operating model was chosen. These chosen strengths and weaknesses were divided in to two parts. The first part introduces the key strengths and weaknesses which are taken into account when the proposal of the improved operating model for the Development function is crafted. The Second part presents other key challenges discovered during the current state analysis, but they are not in a main focus area of this research. However, these operations might have significant effect to the operating model in the upcoming development projects.

The chosen key weaknesses, strengths and other key challenges are presented in Figure 7 below. In order to recognise the weaknesses and strengths from each other, the weaknesses are coloured red and the strengths are coloured green.

PRIMARY STRENGTHS AND WEAKNESSES OF CURRENT OPERATIONS	SECONDARY OPERATING MODEL BUILDING BLOCKS

• **The purpose and main goals have not been provided**
 	
• **Undefined key processes**
 	
• **Unclear roles and responsibilities**
 	
• **Individual development tools are proven to be effective:**
  • **Lean-tools**
  • **Auditing-tools**
  • **Project management tools**
	• Lack of common meeting practices
	
	• No place to store information or development tools
	
	• Development employees are not systematically supported by training
	
	• Development should be more proactive and visible to customer

Figure 7. Strengths a weaknesses of the current operating model.

As presented in Figure 7 above, the three primary weaknesses and one primary strength are presented in the box located in the left-hand side. The first primary weakness was undefined purpose and main goals of the Development function. This challenge was frequently brought up during the fishbone workshops and it was also regarded to be the challenge number one currently. The Development employees in the both fishbone workshops highlighted the need for a clear purpose or strategy which should include the main goals of the Development function. At the moment, the Development function resources are constantly pushed to the limits as organization does not have clear focus and organization is tackling all the development challenges at the same time.

The second primary weakness was the diverse and undefined key processes. This weakness did not come up as a separate challenge during the current state analysis, but it was formed from the key concerns raised during the fishbone workshops. In the first workshop, the employees raised up challenges such as unclear responsibilities, different units are doing the double work, the organization is missing common standardized best practice, and development process is unclear. All the above mentioned challenges are related to a similar problem which is in this study understood as the undefined key processes. In order to meet this challenge, the Development function should identify and describe the key processes which enable the Development function to achieve its goals effectively. By defining the key processes and goals, the Development could also increase the function's visibility to the customer. This was one of the challenges identified by VTT in their customer survey results.

Proper key processes would allow the Development function to define its roles and key responsibilities. Undefined roles and responsibilities were also the third and last primary challenge of the Development function. Defined roles and responsibilities would give individual employees visibility to the main operations and this would help the employees to structure and prioritize their work.

The primary strength was related to the development tools that different Development teams were using. Lean tools earned a broad support from the Development teams. However, every Development team was utilizing Lean thinking for different purposes. In addition to Lean tools, the Development employees of Industrial services highlighted different kinds of project tools. Especially Microsoft project and PDCA project management tools were popular. The employees of Industrial services are currently benefiting from these project tools as their tasks often relate to large scale projects with several participants. The project tools are thus helping the Development employees to manage and schedule their projects efficiently.

The employees of Warehousing and Terminal services, on the other hand, highlighted the tools which can be used to improve the efficiency of their operative unit. They have perfected the development auditing practice and they are qualified facilitators of work studies. Even though all of the Development teams were using tools that were best suited for their business, it does not mean that other teams could not benefit from the same tools. This matter was brought up also in the Fishbone workshops.

In addition to the key strengths and weaknesses, also other challenges closely related to the operating model were found. As the Development function is recently merged from various Development teams operating in different business areas, there is an opportunity to learn from each other. Development Director pointed out this matter during the theme interview and in both of the fishbone workshops this was a popular subject. The Development employees of Warehouse and Terminal services hoped to see better information sharing between the Development teams. Development employees of Industrial services added that there should be a common platform to share information. In addition to information sharing one highlighted weakness was the lack of sufficient meeting practice. With proper meeting practice information could be shared more effectively.

The Development function could also benefit from a training plan which would encourage the employees to continuously expand their knowledge. The Development employees of Warehousing and Terminal services stated that they would need more training especially on topics related to Lean and management. The knowledge updated by training would improve service of the internal and external customers. However, before the training needs can be defined, the key weaknesses which were unclear roles, responsibilities and goals should be defined. Otherwise there is no way to identify and prioritize the needed skills.

The last challenge was identified as the customer orientation. On the basis of VTT customer survey, it came clear that the customers do not recognize the development efforts of the Development function. They commented that the Development function is lacking visibility and in the future there should be more proactive approach to development. By diminishing the identified key weaknesses, the Development function could be made more visible for the customer. In addition to that, some form of continuous improvement could change the development services to be more proactive and also improve the visibility of the operations.

To improve the current operating model of the Development function, the identified key weaknesses should be addressed, thus the relevant best practice on defining the goals, key processes, roles and responsibilities was searched from the existing knowledge. The next section discusses about the reflections and best practice found.

4   Existing Knowledge

This section focuses on existing knowledge related to improving the operating model. Section starts by explaining how the operating model is described in literature and how it differs from the business model. Next, this section introduces the building blocks of improved operating model used in the conceptual framework. Conceptual framework is presented at the end of this section.

4.1   Building Blocks of Operating Model

Operating model and business model are close to each other as a concept. However, the business model is often seen as a larger entity which includes business strategy related aspects. According to (Eyring et al. 2011: 7-8) business model is an approach, the purpose of which is to produce value to the company and the customer and thus improve the competitive advantage. Business model consists of four elements which are interlocked together. These elements are customer value proposition, profit formula, processes and resources. Customer value proposition is company's solution to generate value for the customer. Profit formula discloses how company is intending to generate value for itself. Resources are the assets needed to generate the value for the customer and processes are the paths through which the value is delivered (Johnson et al. 2008: 52-54).

Operating model includes several building blocks which are also included in the business model. However, the operating model differs from the business model in such a way that it is focusing less on the business strategy and more on how business is set to deliver (Huskins and Perry, 2011: 48). Operating model explains how resources are organized and operated in order to get the critical work done (Blenko et al., 2014: 2). Ross et al. (2006: 8) approach the subject from standardization and integration angle but they also agree with the target of the operating model:

> "An operating model is the necessary level of business process integration and standardization for delivering goods and services to customers".

Different authors include different building blocks to the operating model. Dominik and Handscomp from McKinsey (2015: 3) divide operating model into three parts which are people, process and structure. The structure section is handling the structure of organization. The people section is related to culture, skills and workforce productivity. The process section is handling subjects such as operating procedures, performance management and technology. Blanco et al. (2014: 4) use similar building blocks somewhat differently. They combine people, process and technology into one building block and call this combination as "Capabilities". In addition to that they also introduce four other building blocks which are structure, roles and responsibilities, management process and ways of working.

This study is also striving to align operations enabling the Development function to work effectively. In this study, the operating model covers two of the aspects perceived as a part of an operating model. The first aspect is the key processes. The second aspect is roles and responsibilities. In order to create aforementioned aspects, the organization's purpose and goals need to be defined.

4.2   Organizational Purpose and Goals

Organization's aspirations are more likely to be achieved if the organization is able to align its strategy, goals and purpose. By aligning the aforementioned factors, organization and individuals within the organization have a clearer sense on what to do in any given time. Increased awareness of company's direction has a positive effect to earning margins. (Nautin, 2014: 137).

In order to generate sufficient strategy and goals it helps if organization manages to create sufficient vision. The vision should be broad enough enabling every employee within organization to be able to relate to that. However, it should at the same time be specific enough to differentiate from competitor's visions. The vision should be endurable but at the same time easily modified. In addition to all that it should articulate the idea clearly (Nautin, 2014: 138).

Vision can be implemented to organization through strategy. In general level strategy can be described to be a stream of decisions that have lived consistency over time (Mintzberg, 1978: 935). However, when strategy is looked from company's management

perspective, strategy consists of initiatives which are guiding the company (Nag R. et al, 2005: 942):

> "Major intended and emergent initiatives taken by general managers on behalf of owners, involving utilization of resources to enhance the performance of firms in their external environments".

Kaplan and Norton (2000: 65) point out that there is no general accepted definition for strategy and often researchers approach the concept from very different angles. Kaplan sees strategy as hypotheses guiding organizations from current position to uncertain future position. Strategy is used by companies to improve and guide operations in desired direction. Kaplan argues that properly aligned and focused strategy can provide organization with a competitive advantage especially in today's business environment where the advantage is not anymore generated with investments to physical assets, but intangible assets such as knowledge, capabilities and relationships. (Kaplan and Norton, 2000: 11)

Strategies generally consist of several objectives and key activities which include a certain goal. Goal can be seen as an aim of an action as Locke and Latham describe: (Locke and Latham, 2002: 705):

> "A goal is the object or aim of an action, for example, to attain a specific standard of proficiency, usually within a specified time limit".

Locke identifies four distinct ways on how goals can improve organizations performance. First, goals give direction to the organization. Attention and effort are usually directed towards the given goal. Second, especially challenging goals have energizing affect to employees. Third, goals increase individual employee's persistence. Especially when employees do not have time constraints, the pursuit of goals prolong the effort. Fourth, goals motivate employees to use all of their skills. In addition to that, difficult goals can inspire employees to acquire new strategies and ways of working. (Locke and Latham, 2002: 706-707)

Locke also describes the characteristics of effective goals and how to get people committed to the goals. In order for goal to be effective, it should be specific. General goals are not preferable because they cause variation. Different people might understand the

wanted end result and needed effort completely differently. Goals should also be challenging as challenging goals motivates employees and thus improve the effort. However, goals should not be over people's abilities as it can lapse the commitment. In order to get goals implemented one should take care that people are committed. Commitment can be developed by creating sense of importance around goals and by improving the employee's self-efficacy. Goals can be made important by making public commitments. Goals can also be made important by letting employees participate in goal definition process. In addition to that, goals can be made important by introducing initiatives supporting the idea of achieving the goals. Self-efficacy means employees task specific confidence. It can be improved by training, persuasive communication and also by pointing out role models (Locke and Latham, 2002: 707-708).

There are several descriptions and frameworks on how to create a strategy and its goals. One practical example for managing and describing strategy and its goals is Kaplan's and Norton's framework called Balanced Scorecard. Kaplan's and Norton's Balanced Scorecard is a generic architecture for mapping strategies. Balanced scorecard strategy map approaches strategy from four different perspectives which are financial, customer, internal and learning perspective. Near term objectives and activities are described for all of the four perspectives. The strategy formulation starts by describing what the financial objectives for growth are (Finance). Next, the way of creating the customer value is defined (Customer). After this, the strategy formulation is continued by describing how the financial and customer objectives are achieved with internal processes (Internal). Lastly, learning and growth factors such as skills, knowledge, capabilities and systems are described (Learning). (Kaplan and Norton, 2000: 69-72)
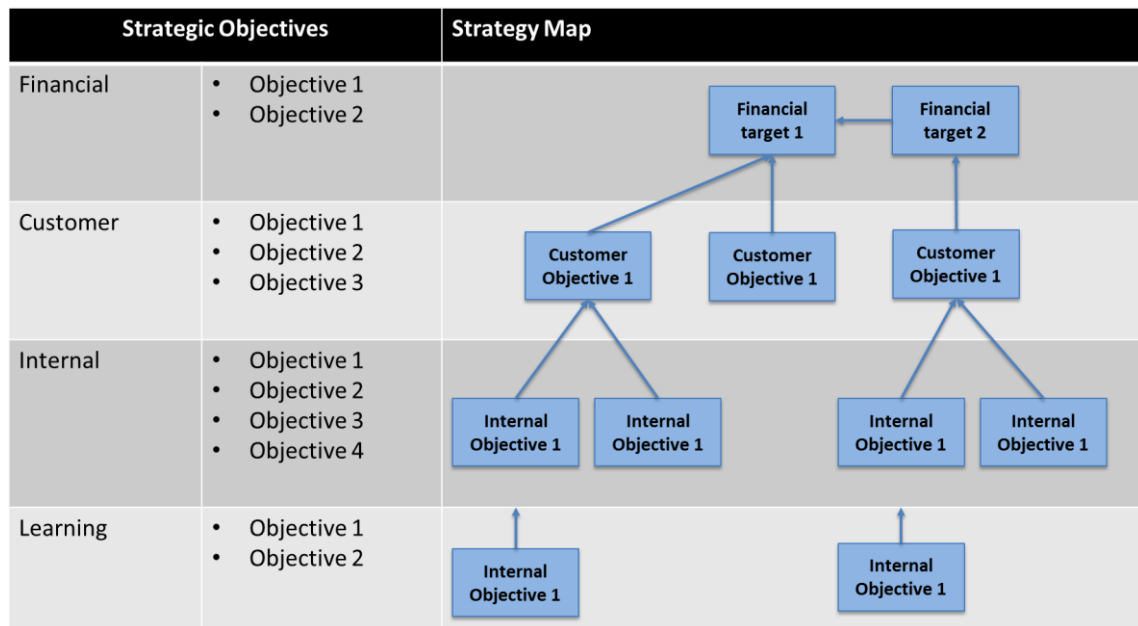
Figure 8. Balanced scorecard strategy map (Kaplan and Norton, 2000: 207).

Figure 8 above, is illustrating the balanced scorecard strategy map. Balanced scorecard strategy maps are ideally built in top down fashion, starting from the top management and rippling down to the local business units. Each business unit designs their strategy objectives from the above mentioned four perspectives, using the top management objectives as a guideline. This allows the organizations strategy to be aligned and focused. However, companies often also have support units providing shared services mainly to internal customers. Support units can refer to RD, marketing or IT and internal units could for example be local business units selling products and services to company's customers. (Kaplan and Norton, 2000: 69-72)

This research is mainly focusing on the shared service unit which provide operative development services to the internal customers, which in turn are offering logistics services to the external customers.

If these kinds of organizations are not interlinked with business units, they can end up being bureaucratic and unresponsive. For these kinds of organizations balanced scorecard should align the strategy so that it is adding value and improve responsiveness to internal customers. Kaplan introduces two models of creating balanced scorecards to shared service units. The first model is "strategic partner model", which is formed for shared service units using already made business strategies. In these cases, business units have often already created balanced scorecards of their own. The second model is

"Business-in-a-Business" model. It is used when there are no clearly formed business strategies but the shared service function is striving to improve its own performance and align its operations towards internal customers. When one unit is creating strategy for itself, there is a risk for sub optimization. For that reason, the shared service unit should view itself as a business in a business and see the internal business units as customers. (Kaplan and Norton, 2000: 203-205)

The Business-in-a-business model is more relevant for this research as the development function of the case company is looking for improved synergy and customer focus and there are no business strategies made with balanced scorecard.

The organization needs several compatible key processes in order to achieve the goals described in the strategy. Next, the ideas on how to define and describe the key processes are introduced.

4.3   Basics of Key Process Definition

With properly defined key processes the organization can ensure that the organization's efforts are aligned to the business objectives such as customer service, efficiency, effectiveness and profitability (Bjørn Andersen, 2007: 33). Before explaining how the key processes are defined and built, this section describes briefly the concept of business process and why it is needed.

According to Jacka and Keller (2009: 17-25), a process consists of three essential parts which are input, transformation and output. The transformation is the phase where received inputs are transformed into outputs. On the general level, the transformation phase consists of several subsequent units. These units can then be divided into tasks, actions and procedures depending on how accurately the process is presented. Anupindi et al. (2006:3-6) introduce a term called "business process", which in their view is an organization or part of an organization transforming tangible or intangible inputs into outputs. Inputs flow through network of activities performed by resources. Resources are usually divided into capital and labour. The capital consists of fixed assets and the labour refers to human resources. (Anupindi et al., 2006: 5).

In the enterprise context, human resources are typically divided into departments. This structure allows individual employees to specialize in the department's field of operations. This also gives organization several other benefits such as a clear organizational structure and reduced costs made possible by centralized units. The processes are then passing through each department one by one (Andersen, 2007: 27-28). The relationship of departments and processes are presented in the Figure 9 below. The units or departments are vertical silos and processes are horizontal arrows passing through each department.
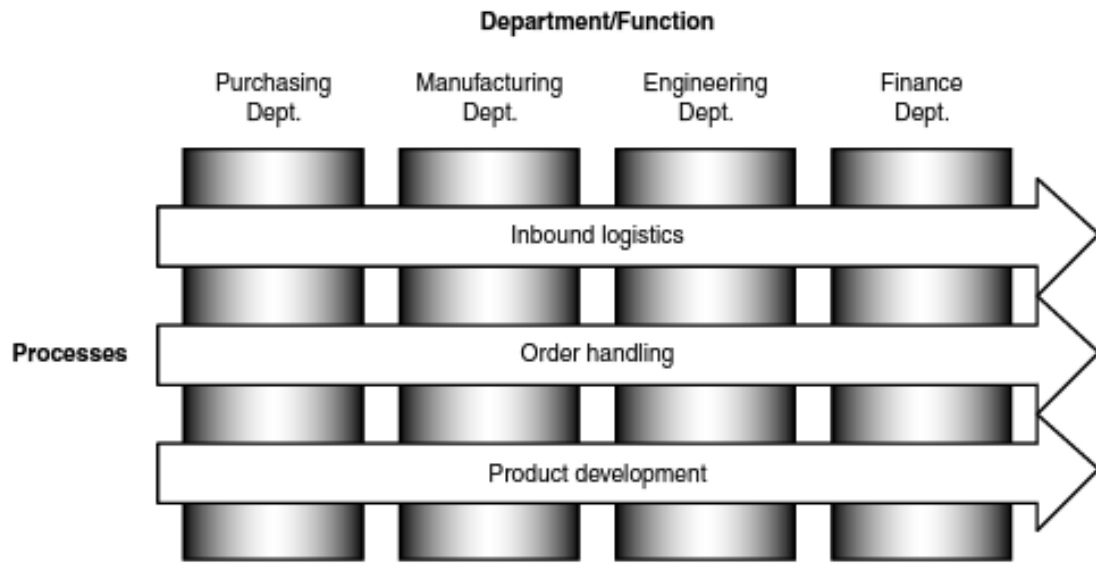
Figure 9. The relationship of departments and processes. (Andersen, 2007: 28).

The structure illustrated in Figure 9 above is typical for the majority of companies (Andersen, 2007: 28). Traditionally the organizations have been managed vertically. This means that reporting and responsibilities are managed functionally. However, this has caused organizations a number of challenges. Different functions have created their own measures and goals which has caused sub optimizing (Grummar and Brache, 1991: 6.) This causes barriers between the functions. The challenges between the boundaries take long time to be solved because they have to be taken up to the top management. The top management is the first place where the functions are connecting. The boundaries between the units reduce the efficiency which then reduces the customer focus (Grummar and Brache, 1991: 6). Instead of the functional performance, business process mapping is focusing on process performance. (Grummar and Brache, 1991: 6). The business process mapping can help the companies to prioritize their customer focus as at the end of each process is the customer. The customer value is created in horizontal processes. (Andersen, 2007: 28). Apart from these benefits, the process mapping can

help the organization to see the interrelationships of the processes. Process maps are also easy to understand and it can be applied to have buy-in to the process (Jacka and Keller, 2009: 9-14).

This research is striving to define the processes of the Development function providing value to the internal and external customers. By identifying these processes, the Development function can improve its efficiency from the customer's point of view.

There are several different processes even within one organization. Two distinctly different processes are manufacturing operations and service operations. The manufacturing operations strive to produce goods for the customer and the service operations provide services for the customer (Anupindi et al., 2006: 12). Along with the business processes, the organizations also typically have support processes provided by the aforementioned support functions. The support processes do not usually create direct value. However, indirect value is created by supporting the business processes. The support processes can be further divided into two classes. First class is the traditional support class including processes such as financial management and HR. Second class is a development or evolution process the sole purpose of which is to improve the performance of other processes (Andersen, 2007: 35-36). The core idea of support processes is similar to business processes. Support processes should also in the end provide some value to the customer; otherwise it is seen as useless (Jacka and Keller, 2009: 41).

This research is focusing on the Development function of the case company, which is helping the operative business units to improve their efficiency. The Development function provides service operations mainly to the internal but also external customers. However, at the moment these processes are not described. Before the key processes could be crafted there should be the basic understanding what the key processes are.

Process mapping starts by defining the key processes. There are several ways on how this key process definition could be done. Jacka and Keller (2009: 42) suggest that, when mapping processes, one should always keep in mind the customer as customer is the one who will assess the effectiveness of the process. All the processes not effecting to customer are pointless. Jacka and Keller argue that mapping should start by looking operations from the customer perspective. From their point of view, the most important thing is to recognize the customer triggers. The customer triggers are customer made impulses that usually start organizational process. Every key process has a trigger, but

it is not necessary triggered by the customer. It can also for example be process input. (Jacka and Keller, 2009: 36-42)

When all the triggers are defined, they should be named according to the process they set in motion. Each trigger should have named process. If not, it should be named this point at latest. After the key customer processes are defined they should be put in chronological order. In order to do this, Jacka and Keller introduces Time Line Work Sheet, which at the beginning describes only the key customer process. After the key customer process have been visualized, the points where support processes are affecting to the key customer process should be defined. Below Figure 10 visualizes completed Time Line Work Sheet. (Jacka and Keller, 2009: 42-46)

Cell Phone Customer Interaction							
Customer Process							
Marketing	Customer Inquiry	Sales	Order Completion		Customer Billing	Customer Payment	Terminate Service
Support Process							
			Service Initiation				
			Support Services				

Figure 10. Time Line Work Sheet (Jacka and Keller, 2009: 44).

As seen in Figure 10 above, the key customer process is illustrated in the first row and supporting processes are presented in separate lines. The supporting processes are arranged to the time line in relation to the progression of key customer process. With these measures it is possible to capture the frame of each process that is effecting to customer. (Jacka and Keller, 2009: 42-46)

What comes to the supporting processes, they might be invisible to the customer but still have an indirect effect to them. The supporting processes are allowing the key process to flow smoothly and thus affecting the relationship with the customer. These processes might be difficult to define from the customer point of view. However, they can be identified by exploring the process from the perspective of business process. (Jacka and Keller, 2009: 49)

Bjørn Andersen (2007: 37-38) has a wider approach to defining key processes. Andersen argues that the most rewarding way to define key processes is to first define organization's strategy and its key stakeholders. Stakeholders can include organizations, institutions or people which are affected or otherwise concerned by the organization. After the stakeholders are defined, organization should map out the key expectations of stakeholders which can be products or services. When the strategy and expectations of key stakeholders are identified it is much easier to define key processes. The relationship between stakeholders, strategy, expectations and processes is described in Figure 11 below.
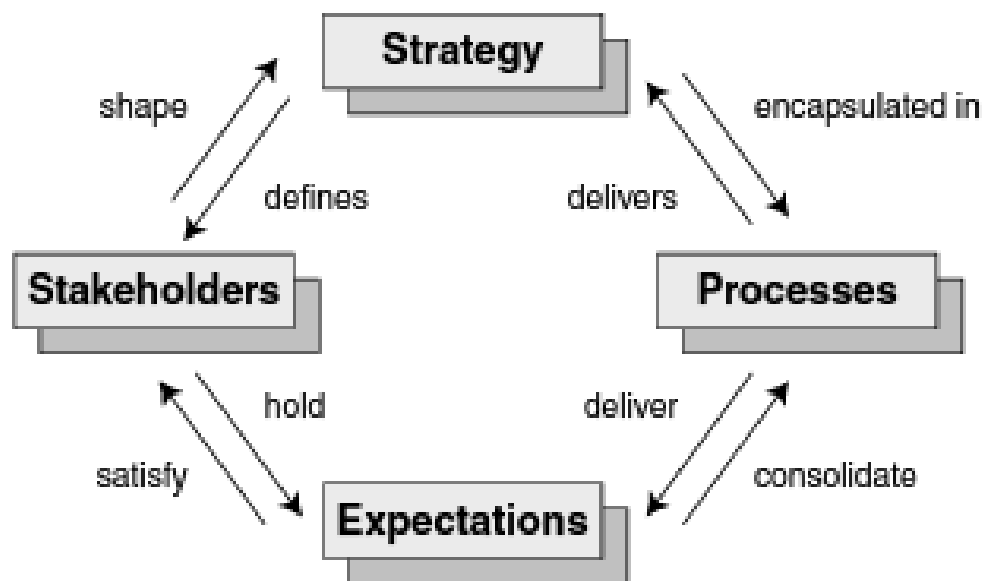
Figure 11. The method used to determine the key processes (Andersen, 2007: 37).

As seen in Figure 11 above, the strategy describes what processes should be delivered and expectations describe necessary operations for the stakeholders. In this study process definition is monitored from two different perspectives. First perspective is the strategy and other perspective is the stakeholders. The stakeholders include internal and external customers.

Before mapping the key processes for the Development function, the standardization level of the processes should be decided. Hammer and Stanton (1999: 114-115) discusses the level on standardization within an organization in their review "How Process Enterprise Really Work". Hammer and Stanton sees here two different trends. Organi-

zations can standardize key processes for all the business units or they can allow diversity. A process standardization means that processes between units are made similar to each other. This allows organization to lower its overhead costs. It is also a way to present one face to a customer. In addition to that it enables workforce flexibility as workers are familiar with different unit's processes. However, diversification has its own benefits. Diversification means that different business units have authority to alter their processes. Diversification allows different customers to be served differently. It also allows the organizations to change their processes more rapidly.

Organizations should also think how accurately they want to describe their key processes. Biazzo (2002: 51) views the accuracy of process maps from the socio technical point of view. Socio technical design is striving to achieve the best possible outcome between aspects of works, needs and expectations of individuals. Biazzo (2002: 51) argues that accurate process maps might not work with non-routine work as current process mapping tools might not be adequate for presenting the complexity of the work correctly.

This study is striving to find appropriate approach between the standardization and the diversification to define the key processes. In order to get the most from the key processes, also the individual roles should be defined. The roles make it possible to improve the work flow and to balance the responsibilities. The next sub-section discusses the role definition in the organizational context.

4.4   Organizational Roles and Responsibilities

To avoid overlapping tasks and confusion and to get individuals aligned with goals and processes, the roles and related responsibilities should be defined. This section describes how the roles are understood in an organizational context and how proper roles are implemented to the organization

With roles, organizations strive to define responsibilities that are necessary to achieve a certain outcome. According to Galbraith, J. et al. (2001) organizational role is a:

> *"Distinct organizational component defined by a unique outcome and set of responsibilities. An organizational role may be business unit, a function, or a type of job."*

Lack of clearly defined roles may cause frustration and inefficiency within organization. This is because each organizational role consists of its own distinct needs, goals and perspective which can easily overlap and thus cause conflict with other organizational roles. (Galbraith, J. et al., 2001) Role definition is seen especially important in today's process oriented organizations, where cooperation between functional and process roles is essential. Increased process orientation has blurred the management lines, thus there is need for more clearly defined roles. (Hammer and Stanton, 1999: 113).

According to Galbraith et al. (2001: 83-84), organization needs to follow three steps in order to align roles with organizational goals. These steps are defining roles, agree interfaces and clarify boundaries. First step is to define the roles with sufficient detail. This is done by first defining the wanted outcomes of a function. After the wanted outcomes are defined, it is much easier to define the needed responsibilities which in other words are tasks needed to be done to achieve the desired outcome. During the role definition, several challenges related to responsibilities might be revealed and by managing these challenges the roles can be further clarified.

Second step is to define the interfaces between the roles. Some business processes may require the roles to collaborate with each other. This means that there is an interface between the roles. If the interfaces are not defined properly they can become gray areas which are no one's responsibility. Interfaces can be defined by using key business processes. To define the interfaces one should name the needed resources under each activity of the critical process. (Galbraith et al. 2001: 86). The idea is presented in Figure 12 below.
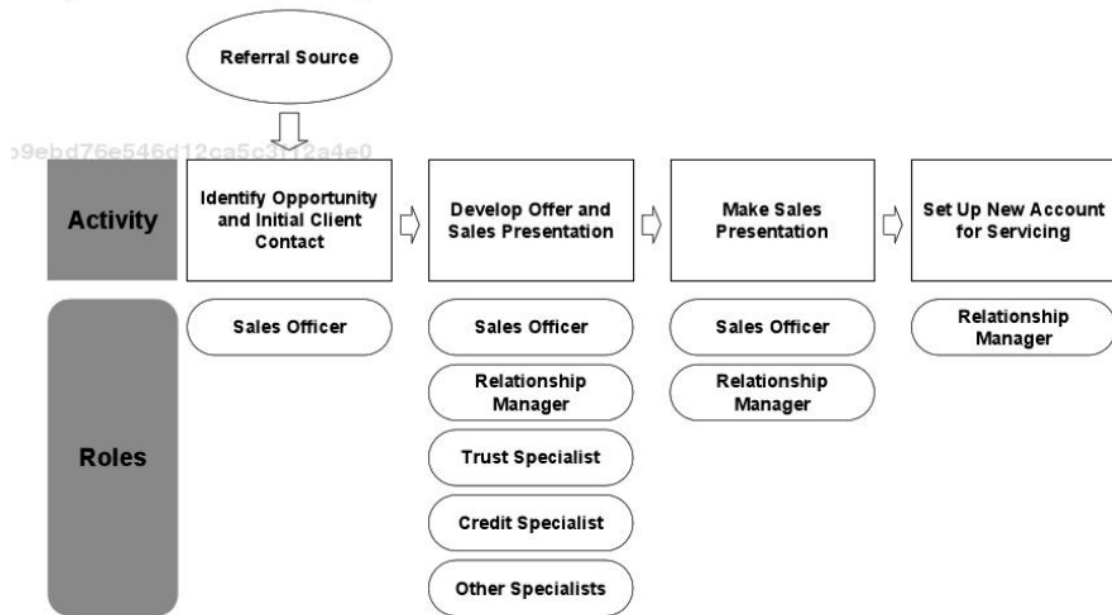
Figure 12. Identifying the role interfaces (Galbraith et al., 2001: 86).

As seen in Figure 12 above, this measure will help visualizing the roles which are related to the specific interface. The visualization can yield rich discussion between roles and further result a set of agreements. (Galbraith et al., 2001: 87)

Third step is to clarify the boundaries between the roles. Conflicts can occur between the roles if authorities over decisions or responsibilities for an action are not clear. (Galbraith, et al., 2001: 87). To solve these kinds of issues, Jacka and Keller (2009: 256) introduce RACI-matrix tool which is a visual map for individual roles. With RACI-matrix organizations can improve accountability, eliminate misunderstandings, reduce duplication and build consensus. This tool is especially good for describing the roles each person is playing in identified processes.

The frame for RACI-matrix is crafted by describing the functional roles to top row. After functional roles are defined the tasks are defined to the first column (Jacka and Keller, 2009, 256). Tasks can be key process tasks or any other tasks where several people are needed to accomplish the actions. Typical RACI-matrix are presented in Figure 13 below.

Key Decisions	Roles					
	Sales Officer	Segment Leader	Relationship Manager	Trust Specialist	Credit Specialist	Sales Manager
Market Pursuit	R	C	I	I	I	A
Product Pricing	R	A	C	C	C	I
Development of Offer	A	C	C	C	C	I

Figure 13. The RACI-matrix (Galbraith et al., 2001: 90).

Traditional functional roles of RACI-matrix are presented in Figure 13 above. They are Responsible, Accountable, Consulted and Informed. Responsible is an actual person doing the task. There can also be several responsible persons as several persons might be needed to perform one task (Jacka and Keller, 2009: 256). Responsible role can also be interpreted differently depending on the context. Galbraith, J. et al. are seeing responsible as an author making decisions. (Galbraith et al., 2001: 89). Accountable is the one who decides whether the task is done or not. He is also held accountable for the task that has been carried out. According to Jacka and Keller there should be only one accountable for each task as multiple accountable can create confusion about the ownership. Consulted is someone within the organization who have to be consulted before the completion of the task. The person who is consulted is often also giving some kind of input to the task or process before the process is completed. Informed is someone who requires to be informed about the task but is not often part of the process. (Jacka and Keller, 2009: 258)

There are also additional functional roles used depending of the author. Galbraith et al. introduce also "Veto"-role which is applied for a person who has a possibility of veto for specific decision. (Galbraith et al., 2001: 89). Boutros and Purdie (2014: Chapter 7) introduces tool that resembles RACI-matrix but is specially made for defining roles within the processes. This matrix is called Roles and Responsibilities-matrix. Fundamentally it is working similarly to RACI-matrix, but it introduces two new functional roles. The first additional functional role is the "input". The person who have this role is completing the task. The second new role is "support" which is indicating the function or a person who is required for completing the task.

Jacka and Keller (2009: 256) point out that even though there is a number of guidelines on how to use RACI-matrix, they are just guidelines. RACI-matrices can be adopted to fit the need of different projects.

The traditional RACI-matrix, which consists of Responsible, Accountable, Consulted, and Informed has been chosen to be used in this study. The original RACI-roles are widely known in the case company context and are therefore favored. In the next sub-section, the relevant ideas discovered from the existing knowledge are combined to form a conceptual framework for this study.

4.5   Conceptual Framework

This section summarises the aspects chosen to be applied for the improvement of the Development function's operating model. In this study, the improved operating model would rely on three building blocks which are goals, key processes and roles. Building blocks are included into this research conceptual framework which is presented in a below Figure 14.
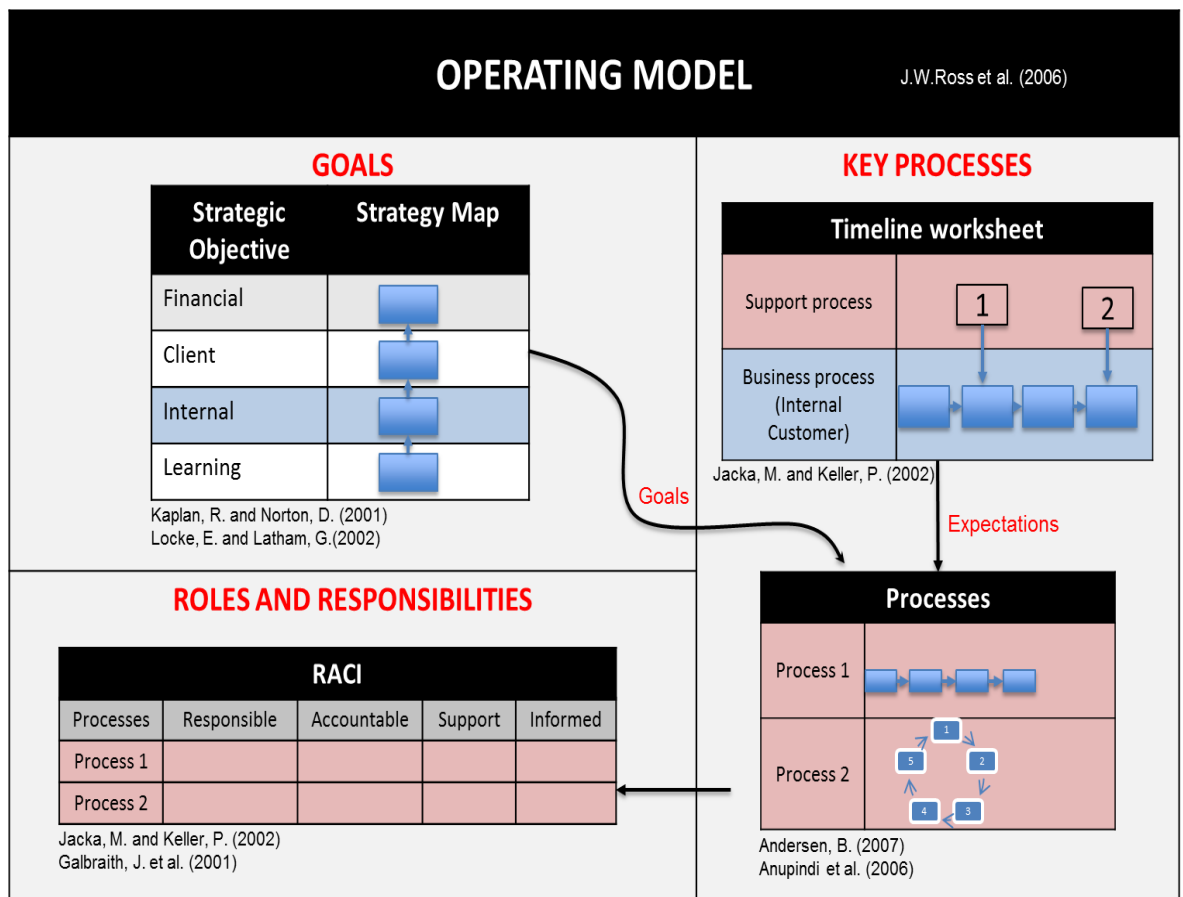
Figure14. The conceptual framework for this study.

The building blocks described in Figure 14 above are designed to be executed in chronological order, starting from the goal definition and ending with the description of roles.

The first building block includes Kaplan and Norton's Balanced Scorecard strategy map which can be used to define the organizational strategy. Balanced scorecard strategy map approaches strategy from four different angles which are financial, customer, internal and learning. Depending on the business there are several different approaches to

form the strategy map. As this study focus on a shared service unit, the Business-in-a-Business model is chosen as the most suitable one. This model is suitable when there are no similarly mapped strategies in the business units but the shared service function strives to improve its own performance and align its operations towards the internal customer. When setting the goals, special attention should be paid to the quality of the goals. The goals of the strategy need to choose carefully. Good goals are specific and sufficiently challenging. To align the strategy and goals, the key processes should be defined.

Next building block consists of the Time line worksheet and key processes. In this study, the Development function's key processes were defined by using the earlier defined Business-in-a-Business strategy and key stakeholder expectations. The stakeholder is regarded to be the business unit and the expectations are mapped by using the Timeline Worksheet. As recommended in business literature, the defined processes should be high level enough to allow adaptation to customer needs in all of the business units. This will also leave room for the employees to create new ideas and ways of doing. To ensure that the processes are functioning correctly, it is reasonable to also define the roles and responsibilities

The third building block thus includes the roles and responsibilities. Role definition starts by, first, mapping all the partakers of each process step. This gives an indication of how many employees are taking a part to one specific process. After this, RACI-matrix can be applied to map out individual roles.

As seen from the synthesized conceptual framework, each of these three building blocks and the findings of the current state analysis can be used to build a convincing operating model proposal for the Development function of the case company.

5   Building a Proposal for Case Company

This section starts by explaining how operating model building phase was carried out and continues by explaining each work stage in more detailed way. At the end of this section the proposed operating model is introduced.

5.1   Overview of the Proposal Building Phase

The proposal of operating model is built on the results of the current state analysis and existing knowledge. The current state analysis identified the key weaknesses of the current operations and to tackle these weaknesses, best practice was searched from the existing knowledge. Three building blocks for improving the current operating model were found and decided to be used as a foundation to build the initial proposal. Ideas and suggestions for the initial proposal were gathered during two workshops which were held with the key stakeholders.

The first workshop concerned the strategy and goals and it is carried out with Development Director. One of the key issues pointed out during the Fishbone workshops was the unclear purpose and goals. To define the Development functions goals, Kaplan and Norton's Business-in-a-Business strategy map was decided to be applied. The goal of the workshop was to map out strategy goals which are categorized under four sections; financial, customer, internal and learning. The goals are defined in top down fashion starting from the financial goals and continuing all the way to the learning goals. In order to minimize sub-optimization, the goals were defined from the internal customer perspective.

The second workshop focused on the key process and role definition. It was held for employees of each Development team. During the current state analysis several comments were pointing the fact that the key processes and roles should be defined. Employees of the Development function raised the issues such as responsibilities are unclear, different units are doing same things, missing best practice and the lack of development processes. To define the key processes, this study used Bjørn Andersens (2007) framework where the key processes are defined based on the strategy and stakeholder expectations. As the strategy was already mapped during the first workshop, the second workshop focused first of all on identifying the stakeholder expectations using Jacka and

Kellers (2009) Timeline Worksheet. The frame used to define the Development functions key processes is attached to Appendix 2.

With the defined strategy and mapped stakeholder expectations, the key processes of the Development function could then be determined. The goal was to determine the key processes in high level so that all employees can identify with them and apply them when needed. Deming's circle was chosen as a process mapping frame as it is already a popular tool within development function. It includes four phases which are used to structure development projects. These phases are "Plan", "Do", "Check" and "Act". The frame of Deming's circle used in this study is attached to Appendix 3. Finally, at the end of the meeting the roles for each key process were identified by using RACI-matrix.

After both of the above mentioned workshops were held, the preliminary drafts, ideas and suggestions for the proposal were combined. The combined data was then used to form an initial proposal which was then passed to feedback round for the key stakeholders for commenting. Next, the results of two workshops are presented on a more detailed level.

5.2 Data 2, Input from Stakeholders

The ideas gathered during the business-in-a-business strategy workshop are presented first. Then, this section moves to presenting the input of the second workshop which concerned the key processes and roles.

5.2.1 Business-in-a-Business Strategy Map Formation

The topic of the first workshop was Business-in-a-Business strategy. This workshop was held 5th April 2016. Attendees of the meeting were Development Director and the researcher. The purpose of this meeting was to define Business-in-a-Business strategy map for the Development function. AS a result of the meeting the Development functions first strategy map was completed. Figure 15 below shows the Business-in-a-Business strategy map crafted in this meeting.

Objective	Development Organization's Strategy Map
Financial	
Customer	
Internal	
Learning/ Resources	
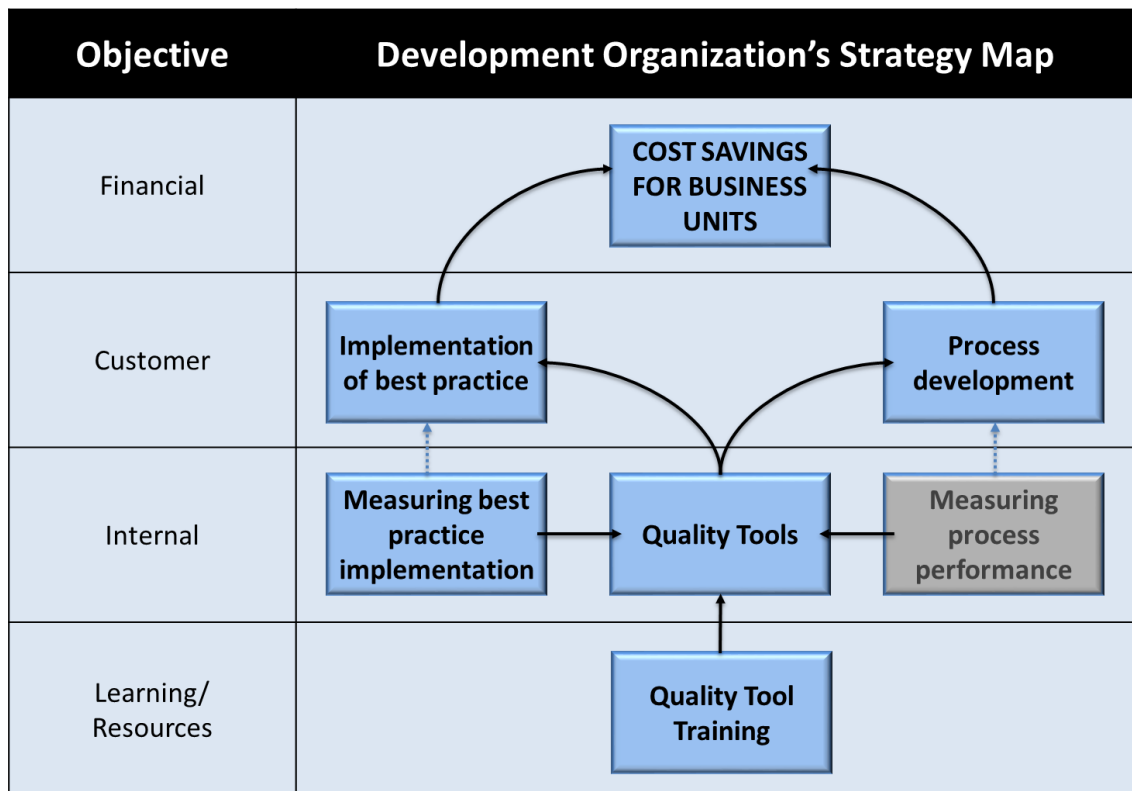
Figure 15. The Business-in-a-Business strategy map for the Development function.

As shown in Figure 15 above, the meeting progressed in a top down manner starting from the definition of financial goals and ending to learning goals. The financial goal explains how the organization justifies itself. It answers to the question of how the organization is generating income for the company. According to Development Director, the first and the most important goal for the Development function is to improve the performance of each business unit and as a result generate cost savings. For this reason, the financial goal was chosen to be "Cost savings for business units".

Next step was to define the customer goals. These goals are describing how the Development functions strive to create customer value for the internal customers. Development manager pointed out that the only thing that the Development function can do for the business units is to rethink their operating processes. However, Development Director added that operations can also be improved at the company level by spreading the best practice to business units as the Development function is a link between all of the business units. At the end, the participants came into a conclusion that there are two strategy goals related to the customer value. These goals are "process development" and "implementation of best practice"

The third step was to define the internal goals. The internal goals should support the pursuit of customer goals. Development Director and Development Manger agreed that process improvement and implementation of best practise are done with quality tools which are already proven to be efficient in hands of the Development teams. However, currently there are no commonly used indicators that would trigger the development process. Development employees are usually just sent to the place where the greatest emergency is found. Development should measure both the process performance and the best practise implementation in order to increase proactivity. Development director pointed out that in warehouse business unit, the Development team is using an indicator which shows the level of implemented best practise. Cascading this indicator to the whole Development function would most likely be beneficial. The process performance is only measured through business performance. In terms of the future, it would be beneficial for the Development function to find a way to also measure process performance. As a shared service unit they can compare the business units and then help improving the performance of the worst performing unit. The internal goals were chosen to be "Quality Tools", "Measuring process performance" and "Measuring best practice implementation".

The fourth step was to define the goals related to learning. This step includes goals that are related to training the resource. The training goals should support the internal operations which were highlighted on the internal step. Development manager pointed out that one of the weaknesses identified during the current state analysis was the lack of proper training. Training needs were mostly related to quality tools and methods of which development is using. As this issue was already highlighted during the current state analysis and no other ideas emerged, Quality Tools training was the sole goal added.

Summarizing the discussion, the aim of this strategy is to show the direction in which the organization is aiming. The strategy will also help to define the key processes, as in this study, the key processes are defined based on the strategy and the stakeholder expectations. The goal of second workshop was to define the key processes and related roles. Next, the content and key output of second workshop will be introduced.

5.2.2   Defining the Key Processes and the Roles

The second workshop, the subject of which was key process definition was held on 11th April 2016. All Development employees from each of the three business unit were invited.

The purpose of the meeting was to first define the key processes, then map them and finally identify the roles needed to run these the processes. The key processes were defined by using the Timeline Worksheet. The outcome of the meeting is presented in Figure 16 below.
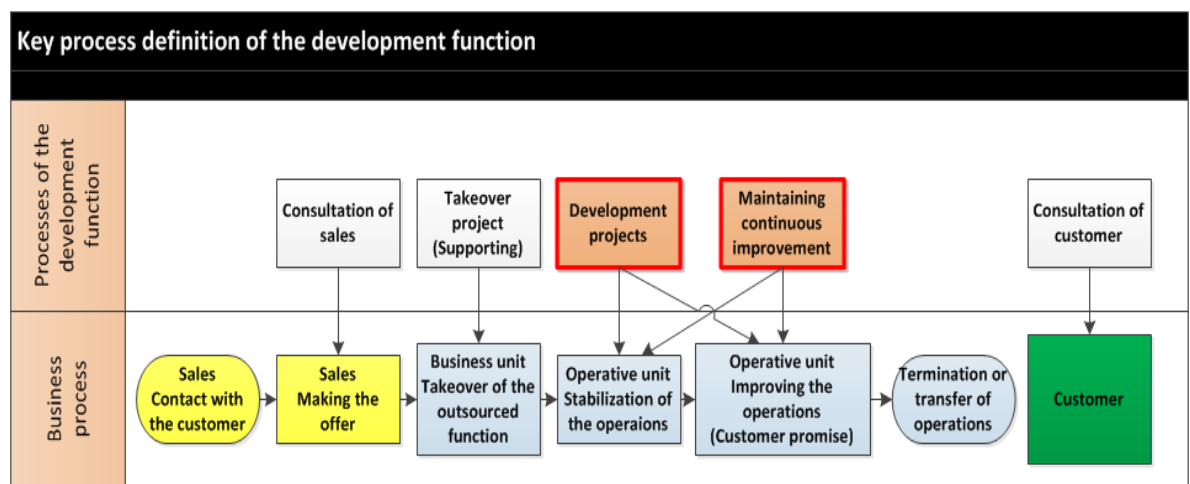
Figure 16. The key process definition of the Development function.

Figure 16 above illustrates the completed Timeline Worksheet crafted at the beginning of the meeting. The meeting started by sketching up the business process. In the figure above, the business process is presented in the bottom row. The business process begins from the sales operations. First, the sales person is offering the services for the customer and if the customer is interested, the sales person makes an offer. Provided that the customer accepts the offer, the process moves to a takeover phase where a business unit takes the lead. In short, the takeover phase includes a takeover of the agreed processes, creation of customer interfaces and implementation of the case company's operating model.

 After the operations are taken over, they are stabilized by standardizing the processes and making the instructions. Next, the operative phase starts and continues all the way

to the end of contract date. Then, a new contract is created or the operations are terminated. The continuous improvement is included to the operative phase because the case company has usually given a customer promise to decrease the costs during the contract period. The employees of the development function pointed out that there should be also a customer visualized in the customer process. This is because the Development function is also providing services to the customers and these services cannot be visualized if the customer has not been taken into account.

The key processes of the Development function (support processes) identified during the meeting are presented in the upper row of Figure 16. A total of five processes were identified. The first identified process relates to sales consultation. During the offer crafting stage, the Development function helps the sales to find solutions and potential improvements from the customer's processes. The second identified process is the takeover. At this stage the Development is planning the future processes and implementing the best practice to the operative unit. The third identified phase was the development project. The development projects are usually started when some significant challenge is discovered in the operative unit. The Development employees often initiates the project and acts as a facilitator of the project. One Development employees of Warehousing business unit pointed out that the Development function's mission is to bring structure and best practice to the project.

The fourth identified process was the continuous improvement. Especially Development employees of Warehousing and industrial services highlighted that continuous improvement is recently raised to an important role in several units and it should be regarded as one of the key processes. Industrial services and Terminal services map continuous improvement systemically although differently. In Industrial services, units are audited and improved according to ISO quality standards and in Terminal services employees have developed their own standards. The fifth and last identified process was the customer consultation. This process was raised at the end of the meeting. Employees pointed out that they are also providing several services straight to the external customers. These services can be everything from Lean consultation to a procurement service.

From all the five identified support processes, two most significant ones were chosen to be mapped. These processes were the development and continuous improvement process. In addition to just mapping the processes, also roles related to specific process phase were decided to be identified at the same time.

The first mapped process is the development project. According to the employees, managing an individual development projects is the most common assignment currently. In addition to that, this process is common to all business units. The ideas concerning processes of development project and related roles are presented in Figure 17 below.

Process of Development Project

Plan	Do
• Notification of development need • Definition of objectives • Project organization must be decided • Current state analysis is needed • Work study • Fishbone diagram • Stakeholder interviews • Process definition	• Implementing the project follow-up measures: • Project implementation tool • MS Project (Gantt) • Task list • Use of available tools • Problem solving tools • Sketch Up • Visio • New tools suitable for the situation

Responsible	Accountable	Consulted	Informed	Responsible	Accountable	Consulted	Informed
Development employee and Unit/Operative Manager	Development employee or Unit/Operative Manager		Development Director and Business Director	Development employee and Unit/Operative Manager	Unit/Operative manager		Development Director and Business Director

Act	Check
• Correction of the shortcomings • Project implementation tool • MS Project (Gantt) • Task list • Standardization of the operations • Definition of follow-up measures	• Project deadline meeting • achieved goals • Failed goals • Challenges? • Possible additional resource?

Responsible	Accountable	Consulted	Informed	Responsible	Accountable	Consulted	Informed
Development employee and Unit/Operative Manager	Unit/Operative Manager		Development Director and Business Director	Development employee and Unit/Operative Manager	Development employee or Unit/Operative Manager		Development Director and Business Director

Figure 17. Ideas for the process of development project.

As shown in Figure17, the process of the development project begins with a planning stage. All Development employees agreed that the planning always starts from the definition of objective and rough schedule. After the objective, definition of the current state is usually mapped in one way or another. The employees of Industrial services explained that they are using tools such as root cause analysis and process mapping to define the current state. Warehousing services, on the other hand, rely more on the work studies, and Terminal services mostly use stakeholder interviews. During the meeting, common consensus was that all the methods are working well and not one of them is superior against others. Moreover, the current state analysis tool should be chosen according to

a particular situation. One Development employees of industrial services pointed out that after the current state and its challenges are discovered, the project organization should be chosen. In the planning stage, both responsibility and accountability is on the same person. This person can be either a Development employees or a unit manager, depending on the subject.

The next stage is the "Do"-stage. It includes the project planning and project execution. The project planning is done somewhat differently in different units. The employees of industrial services are using Gantt charts and the Development employees of other business units are satisfied with their task lists. Both, Industrial and Warehousing services were also developing easy to use the project management tool. In order to avoid double work, these two development projects would be beneficial to combine. After planning the tasks, the next step is to complete the tasks. As the tasks vary depending on the project, there is no need defining the specific tools. However, it makes sense to use tools proven to be good if the situation does not necessitate using a new tool. What comes to the roles, it was seen that both a unit manager and a Development employees are responsible for this stage. However, a Unit Manager was seen as accountable as he is responsible for the unit and managing the resources needed to complete the tasks.

In the third "Check" stage, the status of the project is reviewed. According to the employees, currently there is no agreed practice on how the projects are followed. The result of the discussion was an idea of a follow up meeting which would include review of the completion of the tasks and the adequacy of resources. Responsible for this stage is the development Employee or Unit Manager depending on whichever is managing the project. In this stage it was also seen important that Business Director and the Development Director are informed about the situation as they can push the project forward and allocate new resources for the project if needed.

The fourth stage is "Act"-stage. Challenges discovered during the previous stage are corrected in this stage. The Development employees also pointed out that in this stage the achievements of the project should be standardized. For example, new processes usually need work instructions and training. During the act stage, several next steps might be identified. These next steps should be documented as the follow up measures. The responsibilities are the same as in the earlier "Do" phase. The Development employees or Unit Manager is responsible for execution of the stage but Unit Manager is accountable for completing it.

The second mapped process was continuous improvement process. In the workshop, the Development employees agreed that this process is in the early stages. There is no common way to carry out continuous improvement in the units and there is no single mapped process for it. However, it is widely expected from the internal and external customer side. Especially the external customers were hoping to see a proactive approach to development. The ideas concerning the continuous improvement process and related roles are presented in Figure 18 below.

Process of Continuous Improvement

Plan				Do			
• Warehouse is using annual audit(This task could be cascaded to other units) • 5S auditing in several units • ISO quality audits in Industrial Services • Schedule for the audits ? • First there should be invitations to the next audit • Participants must be selected • Walkthrough of unfinished tasks of the previous audit				• Execution of the audit round • Preview of the audit results • Deciding the next steps and making of the task list • Summary of all the audit results within the business unit should be made			
Responsible Development employee	**Accountable** Development employee	**Consulted** Unit Manager/ Operative manager	**Informed** Development Director	**Responsible** Development employee	**Accountable** Development employee	**Consulted** Unit Manager/ Operative manager	**Informed** Business Director
Act				Check			
• Deadline meeting • Deciding the Follow-up measures • Task list which will be reviewed before the next audit				• Correction of the deficiencies • Implementing the development suggestions			
Responsible Development employee	**Accountable** Development employee	**Consulted** Unit Manager/ Operative manager	**Informed** Business Director Development Director	**Responsible** Unit Manager/ Operative manager	**Accountable** Unit Manager/ Operative manager	**Consulted** Development employee	**Informed** Business Director

Figure 18. Ideas for the process of continuous improvement.

As seen in Figure 18 above, the continuous improvement process also starts from the planning stage. This stage is affected heavily by the chosen continuous improvement model. Currently the different business units are using several different auditing methods. Warehousing services is using its own development auditing form of which the terminal has created its own version. Industrial Services has got ISO 9001 certificate and they are using quality audits required by it. Every business unit has also introduced 5S to some of the operative units. These units are carrying out 5S-audits systematically.

The development employees agreed that in the future there should be one development auditing method that every business unit will use. This could be done by combining the existing audit forms. This would allow the comparison of business units and could thus help on deciding which unit is in the greatest need of assistance. In addition to that, if the ISO 9001 requirements are fulfilled, also Terminal and Warehousing business units could apply for it. To complete the planning stage, the Development employees identified several common steps to be taken. First, the audits of every business unit should be scheduled. Next, the participants must be selected and invited. Third, the tasks which were identified during previous audit and remained unfinished, should be reviewed. These tasks are highlighted during the new audit. It was agreed that the Development employees is responsible for organizing the audit. As he is responsible of organizing audit, he is also accountable of it. However, it is also important to consult Unit Manager as he is completing the tasks discovered during the audit.

In the continuous improvement process, "Do"-stage means the execution of the development audit round. The employees identified three parts which are included to the audit. First, the audit round has to be executed. Second, the results which include development suggestions and challenges have to be previewed with the employees of the unit. Third step is the creation of the task list and schedule. In addition to these three phases, one Development employees of Warehousing services suggested that there should be a common indicator where all the audit results could be combined. This would help identifying the units which might need most help from the development function. The Development employees of warehousing services are already measuring development level of their own units similarly. The roles are similar to earlier phase. At the end of this stage, Unit Manager gets audit results including the deviations and development suggestions. These tasks are then carried out in the next stage.

In continuous improvement process "Check"-stage could be designated differently as it mainly concerns completion of tasks that were discovered during the audit. According to the Development employees this stage should be completely in the hands of Unit Manager as he is responsible of the unit and has access to the resources needed to complete the tasks. The Development employees can help by introducing best practices but they are mainly only consulted in this stage.

"Act"-stage consists of deadline meeting. The Development employees highlighted that there should be deadline for the completion of the audit tasks and after this deadline is reached there should be a meeting where the fulfillment of the tasks are reviewed. The Development employees of Warehousing services considered this meeting especially important as they have development audit already in use and they felt that the tasks are buried beneath other responsibilities if the tasks are not reviewed. Organizing the meeting should be responsibility of the Development employees. Therefore, the Development employees is also accountable of the meeting. Unit Manager should be at least consulted as he is responsible for the follow up measures. Tasks which are not completed in time, will be highlighted during the second audit.

These two workshops gave sufficient amount of ideas and comments in order to build the initial proposal. The resulting initial proposal for the Development functions operating model is presented in next section.

5.3   Initial Proposal for the Operating Model

The initial proposal for the improved operating model is meant to overcome the weaknesses discovered during the current state analysis. It is crafted on the basis of the three building blocks discovered from the existing knowledge and ideas gathered from the key stakeholders. Initial proposal for the operating model for the Development function is presented in Figure 19 below.
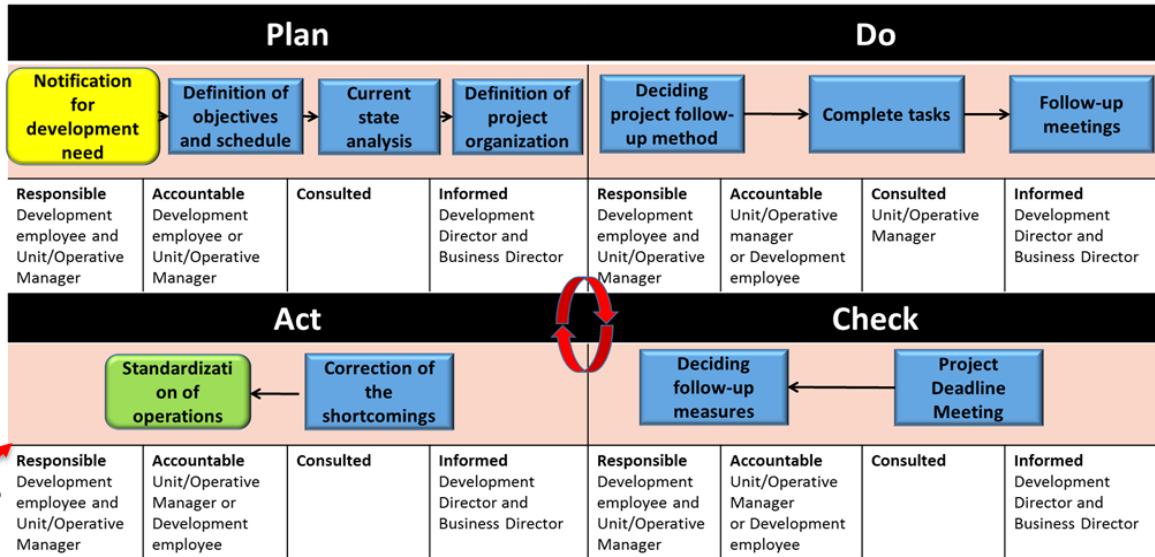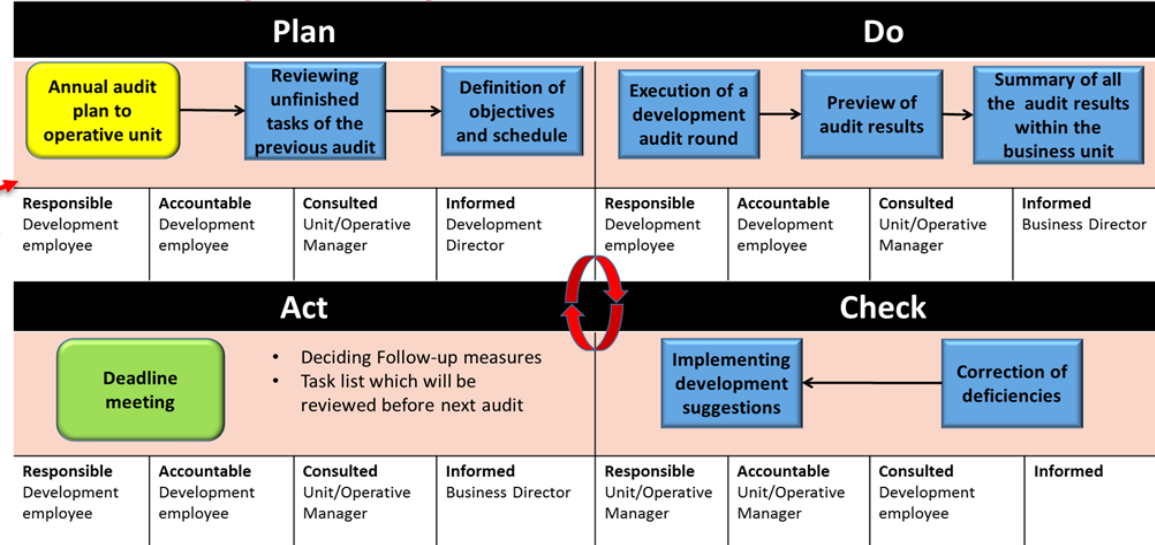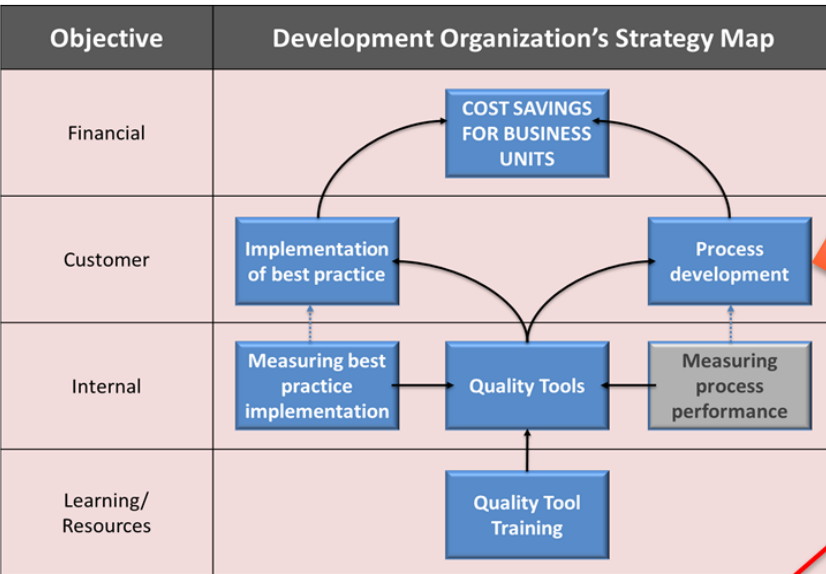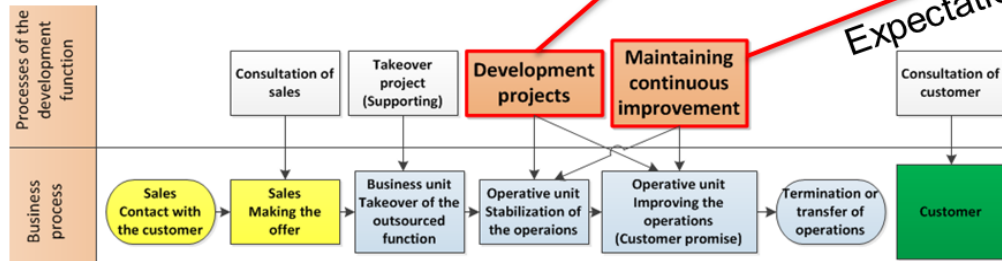
Figure 19. Initial proposal for the improved operating model.

As seen in Figure 19 above, the Business-in-a-Business strategy is providing the goals for the development function and therefore also for the key processes. On the other hand, the existing expectations determine the most important processes. These expectations come from the internal customers which in this study are considered to be the business processes. Two key processes were mapped on the base of the strategy and customer expectations. These processes are "Process of development project" and Process of continuous improvement". Each of the processes are divided in to four phases and in order to align the resources the individual roles were identified for each phase.

The strategy encapsulates the vision where the development should strive to. The ultimate goal of the Development function is cost savings for the business units. This is managed by improving the processes and providing the best practice for the operative units. The process improvement is created by using proven to be good quality tools such as Lean or Work study. Quality tools also include several best practices which should be distributed to the use of all units. To measure and compare the implementation of the best practice, the development audits should be introduced to the entire development function. To make sure that development organization can perform accordingly, the good level of development expertise should be ensured by training.

Two distinct key processes were mapped for the development function. In addition to the strategy, customer expectations influenced strongly to the selection of the processes. The selected processes were "continuous improvement process" and "development project process".

The continuous improvement process consists of development audit which is intended to be combined from current audit forms. The new auditing practise will be common to all business units. The goal is to meet the need defined in strategy to measure the implementation of best practice.

The Development function is responsible for planning, scheduling and execution of the audit and the operative units are responsible for executing the tasks created on the basis of the audit results. In the planning stage the Development function decides the priorities for the audit by using the audit results of the last quarter and the priorities shared by the top management. In "Do"-phase, the audit round is carried out. At least Development employee and Unit Manager should be involved into this round. The outcome of this

round is the audit report made by the Development employees. The "Check" stage is responsibility of Unit Manager and he's resources. During the check stage, the identified improvement tasks are addressed. Each audit report includes a deadline date. The "Act"-stage is executed when the deadline is reached. The Development employees arranges meeting where the status of each tasks are reviewed. After meeting, the Development employees report the status to Business and Development director. Finally, the report is achieved. The report is applied again when the next audit is held.

The development project process strives to harmonize the way development projects are executed. It is divided into similar "Plan", "Do", "Check" and "Act" phases as was the continuous improvement project. Special attention is given to the "Plan"-stage as it is currently not executed systematically. It is also seen as the most important phase as it is carrying the whole project through the completion. The planning phase starts by defining the objective and then continues to the current state analysis. The purpose of the current state analysis is to highlight the root causes or main targets of the project. After this it is easier to define the project organization. "Do" stage include the making of detailed project plan and then implementation of the project in accordance with the plan. The responsibility depends on the nature of the development project. Usually the responsible one is either the Development employees or the operative manager. The check stage includes deadline meeting where the results of the project are reviewed. The possible follow up measures and supporting actions are made during the meeting. The decided follow up actions are then made in the last "Act" stage. "Act"-stage also includes consolidation of the project outcome. Consolidation can include tasks such as making working instructions or project related indicators. After all the tasks included to "Act"-stage are done, the process of development project is completed.

Initial proposal improves the operating model of the Development function. It answers the challenges highlighted during the current state analysis by utilizing the best practise from existing knowledge and ideas gathered from the stakeholders. It is providing the strategy goals and key processes with clear roles to employees of development function. The next section introduces the output of the feedback meeting and the resulting final proposal.

6   Validation of the Proposal

This section discusses the validation of the initial proposal. The key stakeholders were invited to the validation meeting to give their final feedback and suggestions for the operating model. The final operating model of development function was then refined according to the feedback.

6.1   Overview of Validation Stage

The validation meeting was held to the key stakeholders in 20th April 2016. The two key stakeholders invited to a meeting were Development Director of company and Business Director of Industrial services. Meeting started with the brief presentation on how the initial proposal was adopted. After the presentation, each building block of the operating model was discussed in more detail. During the meeting all the relevant ideas and suggestions (Data stage 3) were gathered to field notes. The questions which were used to structure the discussion are attached into Appendix 4. Information collected during the meeting was used to finalize the proposal.

6.2   Findings of the Validation Stage

The feedback meeting started by discussion of the structure of the operating model. The way on how the key processes were identified by using the strategy and the expectations of internal customers got a good reception. Both Business Director and Development Director agreed that the chosen processes are important for the Development function and should be put in to use. After reviewing the structure each building block of the operating model were further investigated. The key ideas and suggestions of each phase are presented in Appendix 7.

First, the Business-in-a-Business strategy of the Development function was reviewed more detailed. Initially, the opinion about chosen financial and customer goals were asked from the key stake holders. The financial and customer goals were generally accepted. However, customer goals raised a discussion whether the external customer should be included into the strategy. Business Director pointed out that the Development function is offering services and improvement suggestions directly for the external customer and thus playing a significant role in the service quality. Especially in industrial

services, Development employees are participating customer's process improvement projects and this co-operation is most likely to be increased in the future. In the end, consensus was reached that services provided for the external customer does not directly effect on strategy specified internal customers in mind. However, services for the external customers should be presented next to the strategy as the activities in question have a significant demand from the customer side.

Next, the opinion about internal and learning goals were asked from the key stakeholders. Measuring companywide implementation of best practice received a good feedback. Distributing the auditing model already used in Warehouse business unit was seen as a good idea. However, Development Director pointed out that audit should not concentrate only to the distribution of current best practices but also strive to find new innovation from the units.

What comes to measuring the performance, the key stakeholders were aware of the situation regarding the challenge of measuring the process efficiency. They agreed that the measuring process performance is something that could help guiding the development effort and should be studied more thoroughly in the future. They also informed that recent improvements on time tracking system might help the measurement of process performance in the future.

According to Development Director, the quality tools are generally good and in active use. However, they are still for some parts business unit specific. In the future, knowledge should be shared across the borders of the business units. Business Director pointed out that sharing the common best practice is not only a challenge of the development but also a challenge of the operative units. In the future there should be some form of guide for best practices for all actions. For example, it could be beneficial to have a couple of recognized best practices for planning the put-a-way. At the moment organizing new warehouses is most often started from the scratch as best practices are not sufficiently documented.

At the end of the meeting, opinion about both of the processes were asked from the key stakeholders. Development director was happy to see that the process of development project included the planning stage. Currently it is quite a common practice to jump straight to the doing phase and by doing this, miss the real root causes. Development

director also suggested that the reporting phase should be included to the process. Currently one of the major reasons for not having the shared best practice for developing the process is the lack of sufficiently documented successful projects.

As already mentioned above the common development auditing model got a good reception from the key stakeholders. In this study the continuous improvement process comprises auditing. Business Director added that in addition to own processes auditing should also cover the customer's processes and customer interfaces. Identified development opportunities could give additional value and sense of proactivity to the customer. Finally, development director added that developing the common development auditing form requires lots of effort before it is in operative use but the idea is viable.

All the feedback gathered from the key stakeholders is used to refine the final proposal for the operating model of the development function. The final proposal is presented in the next section.

6.3   Final Proposal of Operating Model Refined

This section introduces the final refined proposal of improved operating model for the Development function. The final proposal is refined according to the relevant suggestions and as gathered from the key stakeholders. Final proposal is presented in Figure 20 below.

Final Proposal

KEY PROCESSES AND ROLES

Process for development projects
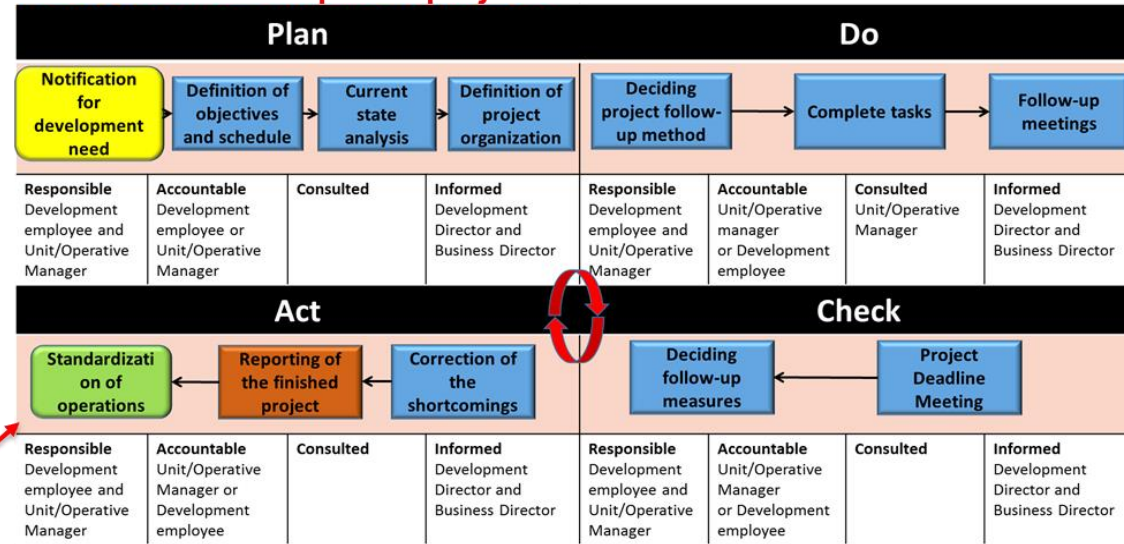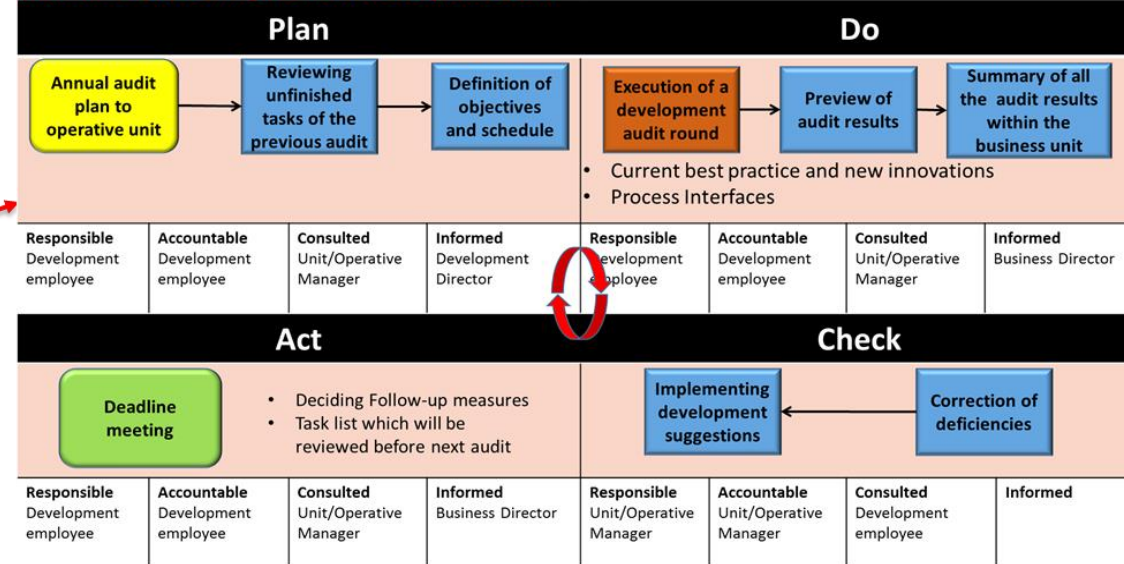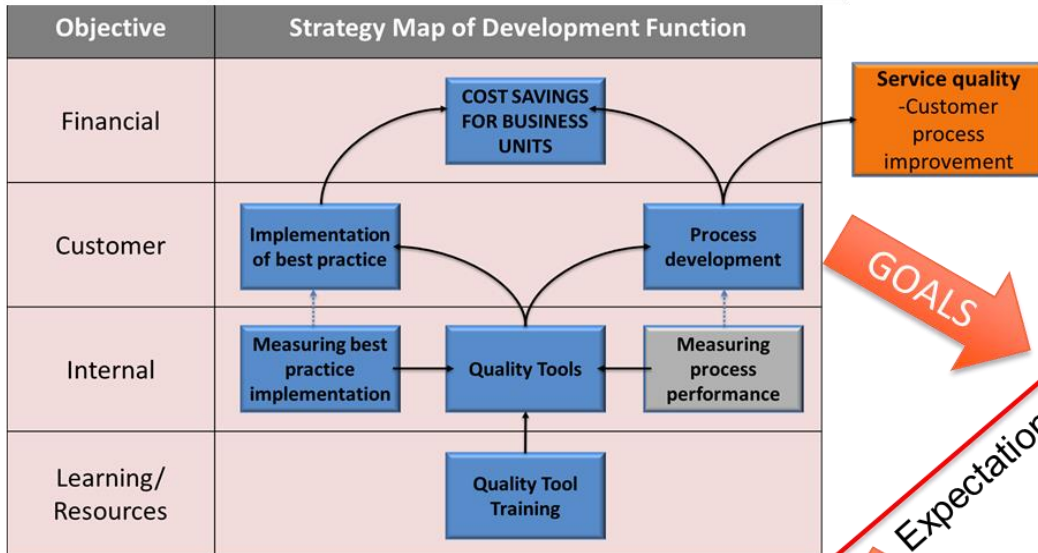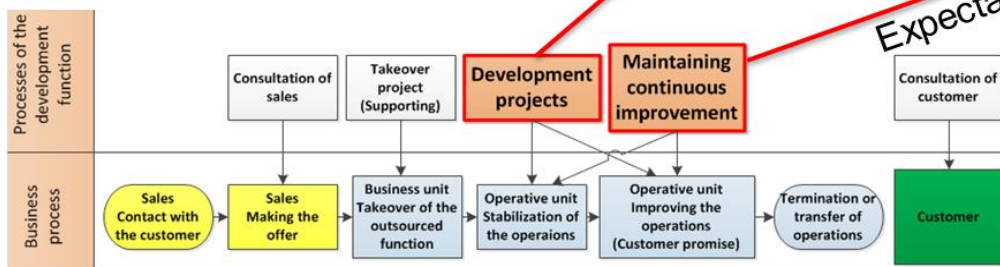
Figure 20. Final proposal for the improved operating model.

As seen in Figure 20 above, the changes made are coloured brown. The structure of the operating model did not change from the initial proposal. The key processes are defined according to the strategy and internal customer expectations. The strategy provides the goals for the Development function and the internal customer expectation determine the demand. When moved to detailed level, the individual building blocks got a few minor changes.

The Business-in-a-Business strategy did not in itself change but now the strategy is taking the external customer into account. Large portion of the duties of Development employees are partially or fully related to the processes of the external customer and in the future similar co-operative work is expected to increase. By illustrating the customer part, the goals towards the external customer are not hidden. The major financial goal is still to reduce costs of the operative units. To achieve this goal, the Development function strives to improve processes and implement the best practise to the operative units. This is done with the existing quality tools. Both, the process performance and best practise implementation should be measured in order to guide the work of the Development function. The applicable tool for measuring the process performance of the operative units is not yet chosen. The case company is looking for the suitable tool which would provide comparable results of the process performance. The Implementation of best practise on the other hand is going to be measured in accordance with the continuous improvement process

The continuous improvement process was not changed from the initial proposal. However, a few minor refinements were made to "execution of development audit"-phase. Process phase now clarifies that in addition to internal development ideas the audit should include a search of development ideas from customer interfaces and customer processes. In other respects, the process follows the "Plan", "Do", "Check" and "Act" phases in the same way as the initial continuous improvement process proposal.

Process of development project got a minor change to final "Act"-stage. This stage now includes also reporting as part of the process. Process reporting is seen important as a documented process can be used as a source for best practise in the future. Otherwise the process is identical to the initial proposal of development project process.

6.4   Recommendations for the Operating Model Refined

This section discusses the further recommendations regarding the final proposal for operating model. It gives the recommendations for the strategy implementation and then continues to provide thoughts regarding the defined key processes.

First, the Business-in-a-Business strategy was validated by Development Director and Business Director of Industrial services. However, it could be beneficial to present the strategy also for the other Business Directors. This could give a more solid foundation for the strategy as currently the Development teams are assigned to particular business units managed by Business Directors not involved into the validation stage of this study.

Second, when implementing the strategy, special attention should be paid to elaborating the goals for the Development employees. Without a thorough presentation, the strategy can become a curiosity. In addition to that, projects should be aligned and prioritized according to the strategy. This would enable the goals to be reached.

Third, the process for the development projects should be taken in to use in the whole Development function as soon as possible. Emphasis on planning could help aligning projects according to the strategy. For example, defined root causes of the analyzed challenges could be prioritized in accordance with the strategy. Further work has to be done on describing the documenting practice. Similar documenting model would allow the Development employees of different units to understand and share information of successful projects. In the future, finished projects could be preserved in common location and thus this location will serve as fountain of best practice.

Fourth, what comes to continuous improvement process, further co-operation between the business units is needed. Especially the audit form should be designed in close co-operation as this would ensure that all the business unit specific needs are heard. This would also help the deployment of the continuous improvement process. As the audit is intended for the use of the Development function, it should not only be a check list for best practices but also a foundation for discovering processes improvements and other innovations. Development audit should be similar to a Kaizen event where all the participant of the audit will be physically on-site. The whole process of the operative unit should be gone through and improvements for the process are searched by following the execution of the process phases. After all the details related to audit have been defined, the

audit process should be introduced to the employees in a similar way as the strategy. In addition to that, all the employees of development function should be trained to follow the process.

7   Discussion and Conclusions

This section presents the results of the study and starts by summarizing the process phases and the outcome. After summary, this section continues to the evaluation of this thesis.

7.1   Summary

This study focused on proposing an improved operating model (goals, joint processes, roles & responsibilities) for the Development function of the case company. Presently, the Development function consists of several Development teams which are working in various business units scattered around Finland. All the Development teams have different backgrounds, their own ways of working and their own expertise and the overall development function cannot reach its full potential without a functioning operating model.

This study is strived to find insight on how to define the goals, clarify the processes and decide the roles for the Development function. The study was conducted in three distinct steps. The first step was to analyze the current state of the Development function. The current state analysis started by mapping the current processes in face-to-face meeting with Development Director. Next, the strengths and weaknesses were identified in two fishbone workshops which were held for the three Development teams serving in different business units. In addition to that, the relevant customer feedback related to development drivers was selected from the customer survey which was earlier conducted by VTT. The current state analysis resulted in the discovery of the key weaknesses and strengths of the current operating model.

Next, best practice for changing the weaknesses into strengths was explored from existing knowledge. This search led to the finding of several practical tools which were found sufficient for defining the needed improvements for the operating model. The results of the current state analysis and the best practice found were then used to craft the initial proposal of improved operating model. The initial proposal was compiled in co-operation with the stakeholders in the face-to-face meetings and the initial proposal building workshop. Finally, the initial proposal was presented to the key stakeholder and the feedback gathered was used to finalize the improved operating model.

The final proposal of the improved operating model for the Development function consists of three building blocks which are the Business-in-a-Business strategy, the defined key processes and the individual roles related to the defined processes.

First, the Business-in-a-Business strategy includes the goals intended to serve as a guide for the operations and projects of the Development function. The goals are categorized under the four sections which are Financial, Customer, Internal and Learning. In order to minimize the sub optimization, the goals are defined from the internal customer perspective which in this case is the perspective of the operative units.

Next, the key processes consist of "continuous improvement process" and "development project process". These processes are aligned with the defined strategy and they are fulfilling the expectations of the internal customers. They are mapped by using Deming's circle as a frame work. Deming's circle divides the processes into "Plan", "Do", "Check" and "Act" phases. The "continuous improvement process" is designed to increase the proactive approach of the Development function. It consists of the development audit process intended to be used in all of the business units. Process allows sharing of the best practice to all of the operative units and measuring the level of development of each unit.

Finally, the "development project process" is built to harmonize the way the development projects are executed. Special attention is given to the "Plan" stage as it is not currently executed systematically. Without a proper planning, however, the root causes or the key ideas might be left undefined and a project might start drifting in the wrong direction. Thus, careful planning reduces the excess work. In connection with the process, the individual roles need to be defined to each process phase. The definition of the roles seeks to achieve a clearer job description and thus a more effective way of work.

Regarding the outcome of this study, the study managed to achieve the planned outcome. The designed operating model enables increased cooperation between the Development teams of the different business units. The cooperation is increased by defining the common goals, the common key processes and the individual roles. The improved operating model was validated by Development Director and Business Director of Industrial services. The proposal got good feedback and it is planned to be used as a ground work for the implementation.

7.2   Managerial Implications

The improved operating model for the Development function should clarify the development goals related to development. This should allow the Development employees to prioritize their work and plan for the future. The defined key processes and roles will unify the current processes on high-level, thus enabling more cooperative and more transparent operations. In addition to that, the defined individual roles provide clarity to processes which will then improve the workflow.

The customers of the case company hoped to see more proactive approach to the operative development. To address these expectations, the defined key processes makes it easier to present the Development function and its value adding operations to the customer.

In order to get the improved operating model implemented, the strategy must first be evaluated and approved by the management board. In addition to that, the final strategy and the defined key processes should be presented to the Development employees and Unit/Operative Managers.

Finally, both of the key processes need also further definition. The continuous improvement process needs a development audit form which they will help sharing the best practice and foster innovation. The development project process, on the other hand, needs the common reporting practice which would help documenting the project. The documents will enable sharing of the best practice especially if the final reports are achieved in the location where the key stakeholders have access to them.

7.3   Evaluation of the Thesis

This section starts by evaluating the outcome of this study by comparing it to the objective. Next, this section discusses abut reliability and validity of this study.

7.3.1   Outcome vs Objective

The objective of this thesis was to propose the improved operating model for the Development function of the case company. The target was to defining the goals, key processes and the individual roles of the Development function.

To address these research objectives, three building blocks of the improved operating model were defined. First, the Business-in-a-Business strategy was formed for the Development function. Business-in-a-Business strategy provide the common goals for all the Development employees within the case company. In the future, the Development employees can prioritize their work and major projects according to the defined Business-in-a-Business strategy.

Secondly, the key processes of the Development function were defined by using the aforementioned strategy and the internal customer expectations as determining factor. The two key processes named "Development project process" and "Continuous improvement process" were identified. These key processes will harmonize the existing diverse processes thus enabling more cooperative and more transparent operations.

Thirdly, the roles related to each process phase of the aforementioned key processes were defined. To define the roles for each process phase, RACI-matrix was integrated to the process map. The defined roles provide clarity to the key processes which then improve the workflow of the mapped key processes.

Thus, the objective of this study can be considered achieved as the solution for improved operating model including all of its distinct parts are completed.

7.3.2   Reliability and Validity

The plan for ensuring the validity and reliability was discussed in Section 2.4. This section discusses on how the plan was realized.

In this study, the validity is divided into two parts which are the internal validity and the external validity. The internal validity was achieved by using a variety of different data sources. In the current state analysis phase, date was derived from the face-to-face interview with Development Director, from two Fishbone brainstorming workshops held for all Development employees and from the VTT customer survey. Later on, during the proposal building phase, the sources of date were the initial proposal building workshop and the feedback meeting. The initial proposal building workshop involved again all the Development employees and feedback meeting was held for the key stakeholders. Key stakeholders in this case include Business Director and Development Director.

In this study, the external validity was not seen as the key element for ensuring validity as the improved operating model of the Development function was seen as case specific. The final outcome is largely based on the needs of the Development function of the case company and thus cannot be directly applied or generalized to other cases. At the same time, it can serve as a case specific example for learning by other companies about building the operating model in a specific case content.

Finally, the reliability was ensured by using the different data sources, different data collection tools and applying the established theory from the cases being investigated. Firstly, as mentioned above, this study relied on several sources of data. Secondly, the data collection tools were also diverse. Date was collected using field notes in the face-to-face interviews, Fishbone diagrams workshops and brainstorming tools in the current state and the proposal building workshops. Thirdly, best practice for improving the operating model was first searched from the existing knowledge and then utilized to strengthen the theoretical foundation behind the proposed solution.

With these actions the adequate validity reliability can be considered to be achieved. This study also managed to achieve the planned outcome of the project. Next step is the implementation of the improvements to the operations of the Development function.

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Frame of Fishbone Diagram and guiding questions

What are the strengths and weaknesses of current development tools?

What are the strengths and weaknesses of material gathering and sharing?

Tools

Material

What are the strengths and weaknesses of current processes?

What are the strengths and weaknesses related to working environment?

process

Environment/ Premises

What are the strengths and weaknesses related to Human resources?

What are the strengths and weaknesses related to management ?

People

Management

Strengths and weaknesses of current operations in Development function

Helsinki
Metropolia
University of Applied Sciences

Frame of the Timeline Worksheet and guiding question

Sales Contact to the customer

↓

Sales Making the offer

↓

takeover of the outsourced functions

↓

stabilization of the process

↓

Improving operations (customer promise)

↓

Cessation of activities
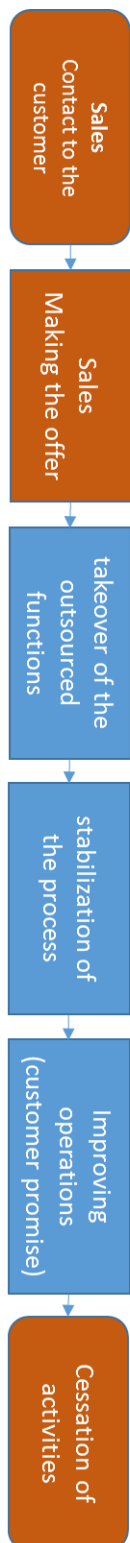
Above process presents key business process of the case company. Which development funtions processes are supporting below illustrated key business process ?

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Metropolia
University of Applied Sciences

Frame of Deming's circle and guiding questions

Plan

What process phases are currently included or should be included to planning phase?

What are the key roles?

Responsible	Accountable	Consulted	Informed

Do

What process phases are currently included or should be included to Doing phase?

What are the key roles?

Responsible	Accountable	Consulted	Informed

Act

What process phases are currently included or should be included to Act-phase?

What are the key roles?

Responsible	Accountable	Consulted	Informed

Check

What process phases are currently included or should be included to checking phase?

What are the key roles?

Responsible	Accountable	Consulted	Informed

Helsinki
Metropolia
University of Applied Sciences

Question sheet for the validation round

Question sheet for valida- tion round	Development Director	Business Director
Are you happy with the process on how the building blocks of the operating model were de- fined?		
What do you think about the planned strategy goals? Do they include all the needed aspects?		
Do you agree with the chosen key processes?		
Is the "Development project pro- cess" containing all the aspects needed?		
Is the "Continuous improvement process" containing all the as- pects needed?		
Is the operating model good enough to be implemented or would you still add some details or improvements?		

Results of Fishbone workshop 1

Tools

- Auditing tools of logistics Development function are Working well
- "Small group"-practice Is promising
- Not yet standardized
- Initiative and feedback gathering
- There should be one company-vide practice for this
- System varies between Business units
- There is great need for Information sharing
- Information sharing platform for development
- There should be no need to invent the wheel again
- M-files might help on this one

Material

④

- 3D layout drawing Development at terminal services is still taking shape
- Sketch Up is proving to bee good tool Formerly operative personnel took care of development
- Needs more training to implement development
- Lean principles (5S and Kaizen) projects
- Many customers expect this 5S-implemention standardized
- No standardized way
- Customer trust must be maintained
- Enables evaluation and measuring
- "Work-study"-tools
- Implementation to other development teams also

Process

- Strive to stand out from competitors
- Growing customer need
- No common best practice
- Different units are doing same thinks
- Organization and responsibilities are unclear
- Several different takeover models are used
- Roles are not clear. Roles and authorization are not clear at company-wide level
- No clear organization
- No standardized best practice to take over a new operative unit
- Development teams are working in close collaboration with operative functions
- No strict development organization
- No clear ways to collaborate within development organization
- Employees don't feel that they are part of a larger development group

②

Environment

- Own operative units or customers premises
- Workstations varies according to the project or task
- Own space for development where development personnel can catch up?
- No face to face information sharing
- Development does not have its own premises
- Challenges development team to improve efficiency constantly
- Logistics customer requirements are high

①

- No clear strategy and goals
- Strategy is not implemented to new development organization

People

③

- Continuous self-development is needed
- Increasing training
- Management training
- Lean training
- There is need for specialization
- Specialization needs to be defined
- Implementing it-systems for example

Management

- Sales doesn't know what development currently offer
- Service offering (Internal and external)
- Does operative units know service offering of the development organization
- Consulting service is unclear
- Service offering should be made clear
- Not standardized
- Unclear management roles
- Development Director Vs Operative Directors

Strengths and weaknesses of current development function

Metropolia
University of Applied Sciences
Helsinki

Results of Fishbone workshop 2

Tools

Problem solving tool would help approaching operative units

Swim lane diagrams
Lean tools are seen useful

5S and value stream mapping

No standardized and validated ways to implement lean

Material

**Project documentation
Is lacking**

How to measure efficiency of developed processes ?

process

No effective meeting practice
No easy way to know what other Team members are doing

Reporting tools are working well
Not used systematically Skype meetings?

**Project management
Tools (Ms. Project)**
The agenda should be light
Should there be Lighter approach also

Initiative and feedback system is effective
Development should act before crisis

Monitoring is not at sufficient level
Notifications have declined

Constant rush challenges the organization
Project implementation should be improved
No systematic approach or follow up

Development doesn't have clear goals
Development responsibilities of other functions should also be defined

What is the role of development?
Can't improve anything before this is clear

Development needs should be defined!

Processes within development are not clear
After defining roles and responsibilities needed recourses and training can be evaluated

Environment/ Premises

Shared database?

Common way to handle and share needed material
Shared standards could improve the usability of development tools and documents

No meeting premises
Theme meetings?
Development meetings in Shared space

Utilization of remote conferences

Communication with mail is not effective

Management

Budgeting
Fares, Benchmarking, sharing of the new knowledge
Training, resourcing, innovation

Use of Development resource.
The use of resources is not handled systematically
Which functions has the right to use development recourses
Do we have sufficient development resource?

How extensively development should support sales
The use of resource between different business units

Assignments but no inclusion
Implementation is lacking

Development tasks and needed resources should be defined in order to create budged

People

Engaging personnel
Engaging individuals in the projects and tasks
Project responsibilities are not clear

No sufficient monitoring

Best practice is not shared sufficiently

Development tools and tasks are personified

Training
Six Sigma to improve analyzing processes

The need of trainings should be defined

Strengths and weaknesses of current development function

Feedback from validation round

Question sheet for validation round	Development Director	Business Director
Are you happy with the process on how the building blocks of the operating model were defined?	looks great	**The idea and the execution is good.**
What do you think about the planned strategy goals? Do they include all the needed aspects?	**The suggested goals were chosen with the internal customer in mind. The goals are good when the customer is seen as operative unit. Measuring processes is challenging as each operative process is unique. LikeIt-system might improve the situation in the future**	**I would suggest to add the customer aspect also into the operating model as the Development function is providing services also for the external customer**
Do you agree with the chosen key processes?	**The logic is clear. Development function needs these kinds of processes.**	**Processes in itself are good. However, the customer aspect should not be forgotten.**
Is the "Development project process" containing all the aspects needed?	**The process is clear and it is especially good that the process concentrates also on the planning stage.** **I would add one task to the process: This task is reporting. If all the projects are documented and stored to a common place, we will be able to use finished projects as a source for the projects to come.**	**This process looks good. The operative units should also start to document best practice.**
Is the "Continuous improvement process" containing all the aspects needed?	**Process looks applicable. The audit form should highlight the discovery of the new best practice. It should also promote innovation.**	**The process looks good. However, I would highlight that during the audit, Development should also search new best practice and new innovations.** **Innovations and best practice should also be searched for the needs of the external customer.**
Is the operating model good enough to be implemented or would you still add some details or improvements?	**The operating model looks good. However, we should still work with the details before implementation. Best practice i.e. should be defined. Also auditing form should be combined from existing ones before it can be shared for all the business units**	**The operating model is clear and it has good ideas. Just add the customer aspect into the goals and I will be satisfied with the model**

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