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An Operating Model to Facilitate Efficient Product and Service Development

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The target of this Thesis was to improve the current operating model for product and service development in the context of efficient initiative handling. The target company is an international ICT services and hardware provider that operates in 100 different countries. Its European wide business unit has a development team that concentrates on security services and products. The team is targeted to grow and needs to have a better model to handle the development efficiently. The existing models used by the target company were not suitable in this particular context.

This study used an action research approach. The research was based on qualitative data collection and analysis. The data was collected in three different phases. First, data was collected for a current state analysis. Second, data was collected during workshops and face to face meetings to get feedback and comments regarding the improvement ideas to form the initial proposal. The third data collection consisted of feedback received about the initial proposal to improve it and create the final proposal for the operating model.

The outcome of this thesis was an improved operating model. The model is presented as Visio diagram with accompanied textual clarification documentation that together describes the target product and service development operating model for the team.

The target operating model proposes changes to initiative handling with different levels of responsibilities and decision making processes as well as strategy and goal setting and communication practices. Its objective is to empower people to work efficiently in their area of responsibility so that unnecessary escalation can be avoided and issues raised only when needed. Regardless of the origin of the accepted initiatives they should follow the strategy defined for the product and service development and therefore be in line with the overall goals. Clarification of roles, responsibilities and organization will also prepare the team for the growth it anticipates in near future.

Keywords	Strategy, Development driver, Initiatives, Product and Service Management, Roles and Responsibilities

Contents

Index of Figures

Index of Tables

1 Introduction

This thesis explorers the development of an operating model that will be used in cases where multiple services are derived from a single product. The case company has many similar type of scenarios. In these scenarios the external and internal development requests coming from different services extend to the core product. The current challenge is to adequately react to the initiatives in the form of product and service development.

1.1 Case Company and Business Context

Fujitsu Finland Oy is part of Japanese based international Fujitsu Company. While Fujitsu operates in 100 countries, nearly 70 percent of the revenue (EUR 35.7 billion) is generated in Japan. In Finland, Fujitsu is the third largest ICT services and hardware provider with the revenue of 438M€. Fujitsu offers support, availability and development services for the customers' IT systems. Fujitsu may also take care of developing the systems and upgrading the hardware by the plan created together with the customer. Offering also include wide range of information security products and services. The majority of Fujitsu services come with the cost-saving cloud option.

Fujitsu Finland has around 2600 employees which many of them directly or indirectly take part supporting hundreds of companies and other organizations and their end users. Fujitsu Finland operates in many public and private sectors. These include governmental, municipal administration, healthcare, defence and security and retail where 2000 stores uses Fujitsu's services.

The business context of this study is based on identity as a service concept. It consists of identity security services as the authentication and federation service and identity and access management service. For the purpose of conceptualizing, one core product has been selected for closer look. This product is used as the basis for multiple authentication, federation and single sign-on services provided by the case company for several private and government customers.

The information security products and services belong the offering of the case organization. It has several teams that expand in the area of the Nordic countries while maintaining the management in the Finland. These teams vary in the size of 5 to 25. The biggest team is the one developing and running the products and services of Identity and Access Management. One of the services and its core product is the one under this study. All of these are company's own intellectual property.

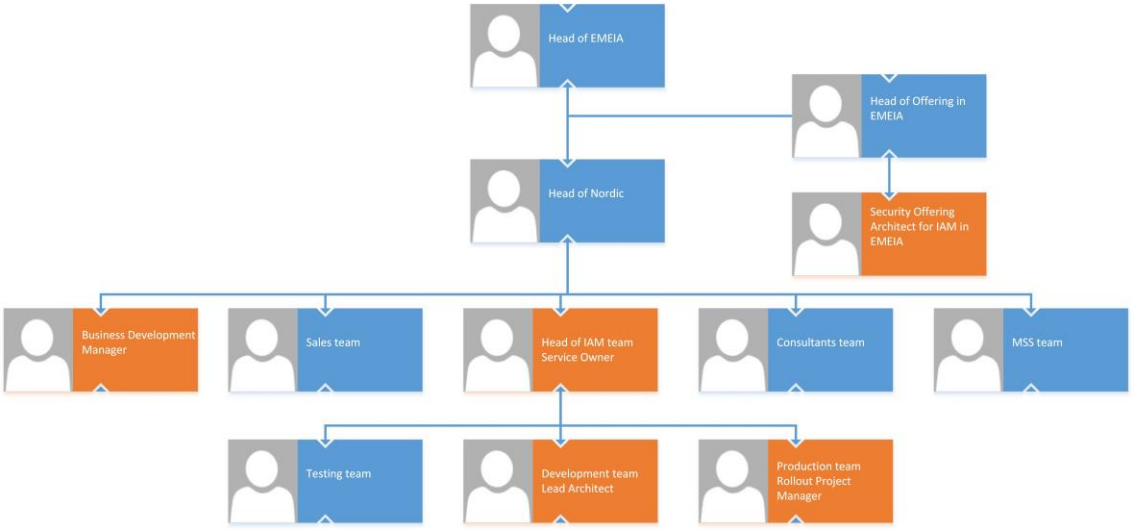


Figure 1 Case organization structure - source of informants market as orange

The core product has existed already for over 10 years. It has been sold as a licensed product and also as a service from the case company's data centre. Based on the customer needs, it has been possible to run the service as a customer specific instance or from the shared service. At the moment this single core product is used to provide 3 bigger services, which have their own service and pricing models. The future indicates that additional service types will be created and possibly provided also from international locations. This creates even more challenges to the handling of coordinated development of the initiatives extending to the core product.

The case organization is growing and does a lot of collaboration and co-operation with the company's other teams and units cross over the Europe and the world. The standardization and unification of service offering in EMEIA and the interactions between the international units brings pressure to speed up the development as sources for the initiatives increase rapidly. The case organization has to improve its processes before the growth happens uncontrollably.

1.2 Business Challenge, Objective and Outcome

The case company has services which are subject to a number of internal and external development initiatives which especially the ones extending to the core products are challenging in terms of coordinated development. The initiatives in this context includes the changes which would introduce new or modified features to the service or product and not just customer specific configuration changes as usually handled by Change Management in production.

While the case company has operating models to use for multitude different products and services, none of them have been found suitable in this particular context. There is a need for a conceptualized model that could be used to adequately react to the initiatives in the form of product and service development. Due to a large number of initiatives with different sources and prioritization needs it is challenging to deliver them in line with given expectations and objectives.

Accordingly the objective of this thesis is to establish an operating model to facilitate efficient product and service development in the described context using one of the core products as an example. Output of this thesis will be an operating model as a Microsoft Visio process flow diagram with accompanied documentation. The final proposal will help the case company to efficiently reach its planned development objectives for the products and services. Taking the proposal in use is not in the scope of this thesis. Study ends to the point that final proposal is created based on the given feedback and comments from the stakeholders and project team. The case company can then decide whether the operating model is taken in use.

As businesses exist to create value, the operating model defines how that value is delivered according to the strategy. (IT Standard for Business, 2015) The operating model can be divided to elements which usually consist from the concepts of people, process and technology. People refers to the roles and responsibilities in the organization. Processes show what workflows are needed. Technology describes the tools and solutions used. (ITIL Foundation 2011 Edition, 2014) According to the IT Standard for Business (2015) the operating model shows the decision making processes needed to create the value to the end users. The best practices and controls are used to operate a business focused value streams so that the IT service can deliver the value most efficiently.

This thesis will not include the research of development team's iteration improvements in the context of task handling. That has been recently studied by the researcher's colleague in his own thesis work.

1.3 Structure of the Thesis Report

The Thesis consists 7 different chapters. It starts with introduction and definition of business challenge, objective and outcome and then continues by describing the used methods and materials in the second chapter. The third chapter includes the current states analysis of the product and service development operating model in the case company and produces outputs as found strengths, weaknesses and stakeholders' requirements. The results of current state analysis and existing knowledge in the fourth chapter is used to build the initial proposal presented in the fifth chapter. Finally in the sixth chapter the proposal is evaluated and improved with feedback from stakeholders and project team. The seventh chapter ends the study with the summary and evaluation of the thesis project process.

2 Project Plan

This section describes the thesis research design, data collection approach and the way how the data is analysed.

2.1 Research Design

This study used the Action research approach as it utilizes the democratic collaboration between the stakeholders participating the action. According to Coghlan and Brannick (2014) the Action research is a research in action rather than action in research thus emphasizing the action as the key activity. Their view is that the four stages (constructing, planning action, taking action, evaluating action) of the process happen in spiral of action research cycles. While the researcher conducts the action research in the organization he at the same time is a participant of the change. The core reason to implement the action research is to bring change. For that to happen, the target outcome isn't necessary the most effective goal, as the inquiry process itself can be as important to introduce the improvements to the organization (Reason and Bradbury, 2008). The research process in academic accreditation has most often two levels working in parallel cycles. By the Coghlan and Brannick (2014) the first action research cycle is where the research projects goals are achieved. They present that the second overlaying research cycle is place where meta-learning happens as it's about action research of your action research. This cycle is where the researcher reflects everything and thus goes through the same stages of constructing, planning, taking action and evaluating action of the current phase of the action research project.

The following diagram lays out the design of this study which aims to present an improved operating model to facilitate efficient product and service development. The selected research approach supports the researcher's ability to influence the organization and generates concrete outcomes as an improvement proposal and the thesis study.

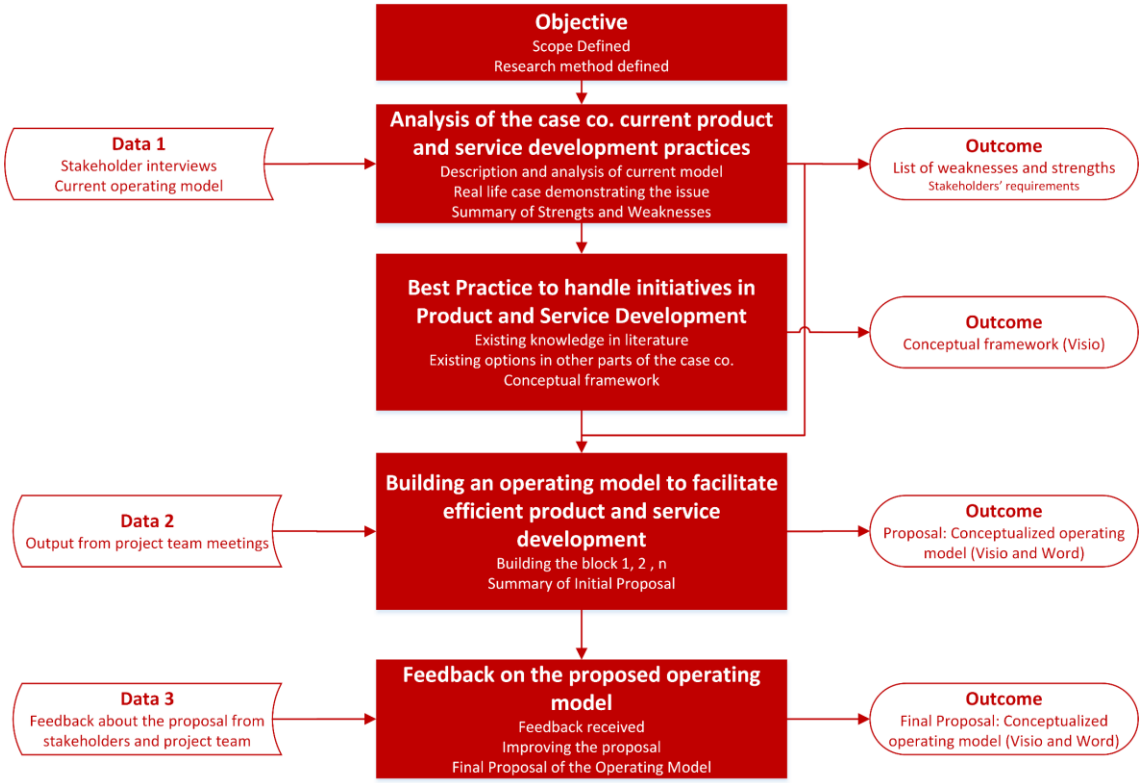


Figure 2 Research design

The above Figure 2 presents the research design as a workflow. The research starts with objective stage where the scope and research method is defined. After that the current state analysis stage brings up the strengths and weaknesses which are used when defining what best practises or company's documented methods are needed to build the contextual framework in the best practice stage. Proposed operating model is created in the building the proposal stage. The evaluation of the proposal stage focuses on getting feedback from the stakeholders and project team to build the evaluated and final proposal. The thesis project ends with summary, recommendations how to continue and the evaluation of the project process itself.

2.2 Data Collection Approach

The research is based on qualitative data collection and analysis. The data is collected in three different phases. The first data collection is used in the current state analysis stage. The second data set is collected during workshops and face to face meetings to get feedback and comments regarding the improvement ideas. The third data collection is about proposal feedbacks.

First data collection for current state analysis

The plan for first data collecting for the current state analysis was to use interviews, operating model analysis and related documentation to find out the strengths and weaknesses as well as stakeholders' requirements. The focus was on the initiative handling practices. The following table shows the data 1 collection plan.

Table 1 Current State Analysis data collection plan

Content	1. What is current operating model? 2. What are the current process (+/-)? 3. What are the stakeholders' requirements?
Data source / informant	1. Interviews - Offering Architect - Business Development Manager - Core Product Owner - Service Owner - Project Manager 2. Operating model analysis 3. Documentation - Case Company's System Engineering Guides
Intermediate outcome	1. Strengths and weaknesses of current process 2. Stakeholders' requirements

Second data collection for building the initial proposal

The second data collecting plan describes what methods and resources were going to be used while building the initial proposal. The project team was to be selected from some of the stakeholders and keep private or group workshops to discuss and collect the improvement ideas for initial proposal. The following table shows the data 2 collection plan.

Table 2 Data collection plan for building Initial proposal

Content	1. How to address the weaknesses found in CSA? 2. How to adapt the best practices to the proposal?
Data source / informant	1. Private and group workshops - Business Development Manager - Core Product Owner - Project Manager 2. Results from CSA and Best Practices
Intermediate outcome	1. Initial Proposal for Operating Model

Third data collection for receiving feedback on the initial proposal

The last data collecting was planned to gather feedback from the key stakeholders and project team. This was going to be done with group or face to face discussions around the initial proposal. Outcome of this data collecting was to be used for improving the proposal. The following table shows the data 3 collection plan.

Table 3 Data collection plan to receive feedback on the initial proposal

Content	1. How are the CSA weaknesses improved by initial proposal? 2. How were the stakeholders' requirements addressed?
Data source / informant	1. Gather feedback regarding the initial proposal - Offering Architect - Service Owner - Business Development Manager - Core Product Owner - Project Manager
Intermediate outcome	1. Feedback to improve the initial proposal 2. Key stakeholders comments

3 Analysis of the Case Company Current Product and Service Development Practices

This section discusses the current situation in the case company and the results of the product and service development operating model analysis. While the thesis study is focusing on the challenges related a single service and its core product, linkage to the other services using the same product is made throughout the analysis.

3.1 Description of Current Product and Service Development Operating Model

As the core product has existed for a long time and used to establish the 3 bigger services, there are some grounded processes and work flows in place that have been proven to work. The organization has several defined best practices and methods that are used to manage the product and service development. With the help of these, the two older services has existed and being able to improve without bigger challenges. What has changed this situation is the latest service launched in 2015. While the other two services are only targeting to domestic markets, this latest service has started in Nordic market and is now rapidly widening its target market to Europe.

The services targeted for domestic customers have different governance roles and responsibilities while the new service is still looking for its own model. Being a service that already from the beginning has put its target to the international markets, the stakeholders involved in it and the shareholders interested from it differ remarkably from the other two. Although all services are owned by the case organization the international aspect adds to the problem scene of handling effectively the product and service development in the light of the increased initiatives.

The initiatives can come from all the shareholders in whatever phase, although usually they emerge from the Pre-Sales, Sales and Offering Management. As the case organisation has also been technology driven, the development team has been largely participated in providing development initiatives for the product and the service.

Results of Stakeholder Interviews

The informants were selected based on their role in the organisation and their participation in the initiative handling process from the strategic level to the operations from offering to the service rollout. They represented the different phases and functions of the product and service development process. As most of them have been involved in the case process for a several years in the same or different roles, they had a very clear understanding what parts of the process work and what needed improvements. While many steps and aspects of the process were identified to be already in a good shape, there were certain issues coming up during the interviews throughout the discussion. The most problematic challenges were same for the informants despite of the differences in their roles and responsibilities. The interviews revealed also problematic areas that were specific to the role of the informant. The following table (Table 4) shows the details of the interviews.

Table 4 Current State Analysis Data collection

Role of the informant	Interview date	Length	Type of questions	Collection method
Project Manager	22.11.2016	45 min	Semi-structured, open-ended	Field notes on Word template
Team Manager	30.11.2016	60 min	Semi-structured, open-ended	Field notes on Word template
Business Development Manager	30.11.2016	45 min	Semi-structured, open-ended	Field notes on Word template
Core Product Owner	19.12.2016	60 min	Semi-structured, open-ended	Field notes on Word template
Offering Architect	19.12.2017	50 min	Semi-structured, open-ended	Field notes on Word template

The questions done during interviews were semi-structured and open ended which gave results for wider and deeper analysis. The same set was used for every informant thus the data collection follows a consistent plan. The data collected during the interviews was first written in a Word document. The researcher created personal document for every informant where the date and length of the interview, name and role of the informant and the answers for the questions were collected. After all the interviews had been done, the data was collected to one Excel sheet so that the analysis could be made systematically. The approach for the analysis was inductive where emergent framework was used to group the data and search for relationships. First phase target was to categorize the answers to make analysis of their relations to the process. The initial set of categories was too specific and there was a need for some generalization using thematic analysis.

After generalization the categories were easier to map to the process and analysis could be made to get the final conclusion. This method of data condensation actually makes the data stronger and is part of the analysis work that the researcher does throughout the thesis. It involves the decisions the researcher makes during selection of themes, categories, conceptual frameworks and questions for the analysis. (Miles *et al*., 2014).

After the thematic analysis and data condensation, the result of stakeholder interviews were collected in different views to work on to identify what are the key strengths and weaknesses and what initiative handling phases and functions they affect. The following table (Table 5) shows the key strengths with the related initiative handling phase and/or function. The identified functions and phases in the initiative handling process are listed in the first column with the number of strengths mentioned. The related strength categories with the number of mentions are listed in the second column.

Table 5 Initiative handling function, phase and its strengths

Initiative handling Function/Phase (strengths)	**Strength (count)**
Product Management / Development (8)	Quality Self-orienting Customer driven Testing Process

	Deployment Development Process Technical Specification Coordination
Sales (2)	Co-creation
Service In Production	Service Support
Service Management / Development (9)	Subject Matter Experts (4) EMEIA wide organization Organization committed to improvements (3) Focus on both Existing and new Customers
Service Rollout	Customer communication
Service Rollout – Activate (2)	Process Deployment
Service Rollout – Start (3)	Subject Matter Experts Coordination Process

The identified weaknesses are listed in the below table using the same method with the identified theme that weakness belongs to.

Table 6 Initiative handling phase, theme and its weaknesses

Initiative handling Function/Phase	Theme	Weakness
Product Management / Development (11)	Communication	Stakeholders uncertain of the process
	Development (2)	Prioritisation process unclear or not enough resources
		Unclear decision making and prioritisation process
	Documentation	Project level not communicated
	Product Offering	Features are not known
	Product Roadmap (2)	Unclear Decision making process, Roles & Responsibilities (2)
	Resources	Not enough resources or all used in

		customer cases
	Strategy & Goals (3)	Development driver unclear (2)
		Unclear decision making process
Sales (6)	Agreement (2)	Billing options not agreed or clear (2)
	Communication	Schedule not agreed with Product Development
	Product Roadmap (2)	Sales or Customer driven initiatives get prioritized to the top (2)
	Strategy & Goals	Unclear as are they in line with customer needs
Service In Production	Resources	Not enough
Service Management / Development (36)	Communication (8)	Information not reaching all the stakeholders
		Missing communication standard and templates
		Not enough between offering and development
		Not enough information regarding processes (2)
		Stakeholders uncertain of the process (3)
	Development (4)	Too slow
		Unclear decision making process and follow up (3)
	Documentation (7)	Missing standard rollout project documents (3)
		Not organized and placement unclear (4)
	Process (4)	Missing standard process description (4)
	Resource (6)	Not enough (2)
		Not enough, Unclear prioritisation

		and decision making process
		Production support and rollouts takes time from the development
		Same people doing support and development
		Unclear budgeting
	Service Roadmap	Unclear presentation and follow-up
	Strategy & Goals (6)	Development driver unclear
		Roadmap decision making process and development driver unclear (5)
Service Offering Management (2)	Strategy & Goals	Roadmap decision making process and development driver unclear
	Communication	Service Offering Development Process not efficiently enough communicated
Service Rollout (3)	Change management	Coordination unclear
	Process (2)	Not as lean as it could be
		Process and coordination unclear by stakeholders
Service Rollout - Activate	Process	Fast start does not always render as fast overall process

Weaknesses were colour coded as decision making (orange), strategy & goals (red), communication & documentation (green) and resourcing (blue).

Many of the comments were indicating challenges in communication, documentation and unclear process as spoken by the informants in their responses below.

> *Inadequate or missing work and communication practices as for example templates for rollout task lists and project plan. Documents are not in order or their placement is unclear.*
>
> *Informant 1 Project Manager*

> *No one place for the documentation. Definitely there are things that can be executed simultaneously, automatically and defined as standards.*
>
> *Informant 2 Service Owner*

Unknown and unclear processes which indicates problems with transparency were especially obvious for one of the informants like stated below.

> *The process does not show up too much for me other than what happens regarding the Sales Support. I don't have knowledge where to look for the process documentation. Not clear how initiatives end up in the roadmap/backlog. Things are going forward slowly.*
>
> *Informant 3 Business Development Manager*

Also the resources, decision making and product and service roadmap/offering planning got mentioned more than once where few examples shown below.

> *We have to find a model where the actual roadmap is studied in an upper level without going to the details. There have been initiatives on the table but no mandate to bring them up to the roadmap. Resources have been fully utilized so backlog has not shortened at all. Overall budgeting not clear.*
>
> *Informant 3 Business Development Manager*

> *The offering process has not been informed to the development team and should be improved. The decision making and thinking should happen more on a local bases in the service and product management level when planning the offering. Not enough resources.*
>
> *Informant 4 Security Offering Architect*

> *Decision making unclear sometimes even when handling smaller development initiatives brought up by development or testing team. Don't know how initiatives are selected to the roadmap. Often the sales team pre-*

sents a new customer case which includes initiatives that haven't agreed commonly with the development team to be on the roadmap.

Informant 5 Core Product Owner

All discussions with the informants brought up responses and observations that strengthen the understanding of having to improve the initiative handling process thus the initial business challenge was correctly set.

When asking whether there are some specific requirements by the stakeholders, the service owner, who is at the same time the team manager, answered that "handling of initiatives just has to improve because the organization is targeted to grow and we need to have our processes and practices ready before that". This emphasis clearly the urgent need for the thesis work and all improvements are therefore welcome. There is also another notion that can be picked from this response which is the expectation that the organisation is going to get bigger somehow. This should be taken into account when researching the best practices and building the proposal. Another requirement from the second stakeholder, Offering Architect, was that people should be empowered and be able to make decisions on their area of responsibility. They should be given the needed information to foster bigger picture thinking and understanding, which would get them working better towards the common goal. Offering Architect presented also a requirement to improve the communication between every managerial function and key roles in the initiative handling process.

Current Operating Model

The current service and development operating model was analysed in the context of handling the initiatives. The following table describes the functions related to this based on the qualitative data analysis of the interviews. The identified functions are supported by the researcher's knowledge gained by observing and participating in the process.

Offering Management	Pre-Sales	Service Management	Product Development	Sales	Service Rollout	In Production
• Roadmap in Long Term • Portfolio	• Marketing • Webinars • Expert Talks	• Roadmap in Short Term • Offering in line with upper level decisions	• Product Roadmap and Backlog • Coordination • Development	• Sales Support • Solution Description	• Start • Setup & Conf • Activate • End	• Support • Change Management

Figure 3 Functions where initiatives can emerge or are handled

In the above table the external customer can usually bring forward initiatives in all phases but Offering Management and Product Development. Internal customers on the other hand can present initiatives in all phases.

The next picture shows the same functions in a top-down organization view in the context of handling initiatives. The Offering Management takes care of the upper level planning and guides also the service material creation for the Pre-Sales and Sales. The next level is the Service Management, which governs the whole life cycle of the service from planning, creation, transition, maintenance and withdrawal. The blocks named by juts “SM” represents the other two big services that utilizes the same core product.

Figure 4 Top-down organization when handling initiatives

The Offering Management has the responsibility to plan and create the overall target offering and its roadmap. Service Management will create the service level roadmap plans according to the offering plans and will take into account the needs coming from customer cases presented by the Sales. Same time Service Management tries to listen to the functions below it, the Rollout, Production and Product Development teams for any initiatives they want to bring forward. This is the common understanding of the operating model and initiative handling process but it is not working. For example there is no available process definition that describes this. Roles and responsibilities are not defined clearly to tell who does what and when.

The functions work inside their boundaries, but the communication between them is not working. The Offering Management does not get information about the initiative statuses. On the other hand the Service Management and Product Development functions are not informed well enough about the overall strategy and goals. Challenges are also between the Sales functions and the Service Management. Sales don't have the correct understanding of the Service offering and will make deals that generate surprises to the development teams as in agreed schedule and new initiatives. Often it happens that the customer requested initiatives brought by Sales are put to the top of the Product Development backlog with the highest priorities. This is normally the correct way as the purpose is to serve the customer. The problem is that what might have been planned is now going to change. Usually it is the technical development initiatives which have to give room. There is no working way to compare the initiatives fairly and to say which of them are the most important.

Case Company's System Engineering Guides

The operating and development processes follow company's best practices (Case Company, 2017). The plans with related documents are created accordingly. The problem is that these documents are stored too many different places without proper organizing. This makes it difficult to enable communication between the stakeholders. There are copies of public service documentation scattered around the storages, company-wide or personal, as the reserved service document management systems have so strict or selected access controls which are not serving their purpose. One other problem with these documents is that they describe the practices in the levels of development, deployment and operational level only.

3.2 Analysis of the Strengths and Weaknesses of the Current Model

The responses from the interviews and the understanding of the current operating model supports the same analysis of the strengths and weaknesses. What the researcher has been observing from the organizations processes by participating in it as an action researcher has also been verified by the discussions with colleagues in frequent development and planning meetings. These, together with the informants own responses, have made it possible to construct the following analysis.

Strengths

As stated in the previous chapters the functions work fine on their own. Inside their responsibility area the tasks are executed mostly as expected as long as it is related to the functions' inside goals. Sales function does excellent work on the co-creation with the customers. Service Management is committed to the improvements and has the focus to serve the existing and new customers. The Service Rollout team knows how to face different customers and communicate with them. The deployments are done and coordinated by professionals. The service in production is supported by the talented experts. Many of the tasks related to the product development got high praises. The development and testing processes work. The quality is excellent. The team is self-orienting and knows how to create technical specifications. These are among the many more that was found working in the current model.

The discussions brought up frequently the brilliant people who work for in all the functions. Organization has been lucky to get and attract so many really talented people. There are excellent generalists, subject matter experts and persons working from so different background. Diversity is one of the many strengths in the unit. Variations in the team will ensure there are better discussions and concepts emerging which helps to solve the on hand customer's problems. Teams consists, but not only, of different gender, nationality, age groups and education backgrounds. For example the older team members are teaching the younger ones and giving their huge knowledge pool to use while you have the enthusiasm and can do anything attitude of the novice members pushing others forward. To serve different types of customers is also easier when you have the strengths coming from the diversity. In the right guidance the diversity can also be a source for innovation as suggested by Van der Vegt and Janssen (2002).

This analysis implies that the ground is solid and works for the organization, but to be able to improve it needs changes.

Weaknesses

The weaknesses were observed and recognized from almost all the initiative handling process functions and phases but most strongly they were emerging from the areas of decision making, strategy & goals, communication & documentation and resourcing in the light of the initiative handling.

The roles, ownerships and responsibilities related to the decision making and strategy planning were unclear. There are no clarified processes which would clearly state who makes the decisions regarding new initiatives emerging from customers or stakeholders inside the organization. Also the organization and roles who participate in the strategy and roadmap planning are not defined or clearly communicated. Service organisation (including the development team) has to be laid out more clearly and the roles have to be specified so that the responsibilities and the processes are known.

Communication does not work between functions and roles. Documentation is inadequate, missing or not organized. Some informants stated that the documentation and information is not accessible and the needed information does not reach the correct people or stakeholders. Transparency is missing from the decision making and the information related to that. Some of the communication & documentation category weaknesses actually imply problems with unclear roles and organization as many answers were related to unknown processes or responsibilities regarding the communication.

Planning the product and service strategy, goals and roadmap does not have guides and defined practices. It is also unclear whose responsibility it is to make those. Development driver is unclear and the overall vision and goal is vague. Strategy is missing or not communicated efficiently and therefor there are no short or longer term goals regarding the product and service development the teams can focus on.

Feeling was that there are not enough resources. Every informant reported that more people would be needed to process new initiatives and tasks so they could be managed, planned and implemented efficiently.

3.3 Real life case demonstrating the issue

Very good example of the challenges the case organization faces is the one where development initiative realized together with the customer ended up not in use and not in the offering of the service.

The initiative was perfectly in line with the vision of the product and service. It would have added the features and possibilities to integrate the product with other 3rd party

services. This would not have been only a customer specific need but something that the organization saw could increase the sales of the service.

The development was done and tested within the organization's testing environment. When it came time to run the proof of concept with the customer organization using their services, something prevented the solution to work. Development team worked together with the customer, the IT specialists of the customer and the every possible expert within the case company. In spite of all the effort put from both sides the underlying problem was not identified and could not be fixed. Customer was of course not happy but as this was done in the proof of concept method the expectations were in line with it. The target was to find whether it was doable or not.

Same time during the phase of doing the proof of concept (PoC), the customer had made a decision not to take in use their service where this new initiative would been needed. The decision was made based on other reasons and not on the results of the PoC. For the case organization this meant that what they had ready in their product and service was something that was tested working in their own environment but not in the customer environment. Now that the customer was not anymore involved in financing the development, the initiative got lost in the prioritization of all the others and was never finalized and was never added to the service features. The problem was that something that was not seen bringing revenue and profit in the short term, was lower in importance than anything else. As the finalizing of the feature would have cost time, money and resources without immediate profit, the development was put on hold.

3.4 Summary of the Strengths and Weaknesses

Findings from the interview and operating model analysis support the thesis initial business challenge being the assumed and observed problem that needs to be solved. The areas of product development in the development team, deployment, and people's expertise and knowledge where found to be working. They are not then the focus of this thesis. Also left outside of further analysis and improvement work were the areas having minor weaknesses including sales, pre-sales and rollout phases. These can be dealt by giving more focus on them to see easy improvements. What needed and could be studied in the role of the researcher were the decision making, strategy & goals, communication & documentation and resourcing in the light of the initiative handling.

Problems with these categories were found from the offering, service and product management functions and phases. The interviews revealed also problematic areas that were specific to the role of the informant, but what could eventually be linked to the overall categories of challenges. The stakeholders put also more stress to define a solution for these selected categories as the organization is subjected to grow.

The real life case demonstrated that when proper measurements were not in place the initiative was buried under more recent ones. In this case the problem was the missing strategic decisions for goals and maybe the longer term revenue estimates that could have given this initiative totally different priority.

At first it seems that simple solution to the problem not having enough resources would be just to add people as everyone feels there are too much work versus the size of the team. This needs further investigation as first there has to be measurements to base the decisions to. Also the unclear roles and responsibilities does not help to make decisions regarding the resourcing. Alternative solution could also be to map the work in a longer time frame and start communicating with the sales team how to properly sell and define together about the schedule.

The stakeholders also made specific requirements to prepare for a bigger organization when thinking of the processes and practices, empower people to be able to make decisions on their area of responsibility, foster bigger picture thinking and understanding and improve the communication between every managerial function while building the proposed operating model.

4 Best Practices to handle initiatives in Product and Service Development

The target of this section is to find best practices and frameworks from business and research literature relating to the product and service development. The purpose is to also look for any company practices that are in use on the other parts of the organisation that could help on to build the conceptual framework. After suitable practices and frameworks have been identified and researched, best of those that could improve the weaknesses found are chosen.

4.1 Existing knowledge on Product and Service development in literature

Following chapters presents the frameworks, best practices and processes relating to the relevant research and business literature.

4.1.1 SAFe 4.0

The Scaled Agile Framework (SAFe) is a set of proven patterns which can be used from small to large size organizations developing software and systems. It can scale up from under 100 practitioners to over 1000 of people. Being modular the framework can be adjusted to select only needed governance levels. The 3 level model is suitable for smaller solutions needing fewer agile teams. It can also be used for simpler systems which are very independent from other products or services and thus making the governance more complicated. The three organizational levels introduced are Portfolio, Program and Team. (Leffingwell *et al*., 2017)

The portfolio has a Kanban view from Epics and Enablers that implement the strategic themes connected to enterprise business strategy. Portfolio Epics are large enterprise-initiatives and portfolio Enablers are technology related initiatives. Initiatives have their own analysis and approval processes. These initiatives are realized through value streams that deliver services and products. Value streams are often cross-organizational and provide the way to improve product development flow without actually creating them. To create the products and services there need to be agile teams which combined together build the Agile Release Train (ART). A Value Stream can consist of multiple Agile Release Trains. Funding of values streams follows a lean-agile

budgeting model of SAFe. The key roles of portfolio level include Epic Owner, Enterprise Architect and Program Portfolio Management. (Leffingwell *et al*., 2017)

The Program level manages the Agile Release Trains which are virtual agile team groups consisting of 50 to 125 people. Being a self-organizing team it has all the roles needed to deploy initiatives from idea level to production. The cross-functional teams are aligned by ATR to a common mission and vision. The program level defines its vision, roadmaps, metrics and milestones which applies also to the team level. Key roles in the program level includes Release Train Engineer (Chief Scrum Master), Product Management, System Architect and Business Owners and the Customer. The program backlog is owned and prioritized by the Product Management. (Leffingwell *et al*., 2017)

The Team level in SAFe presents all the agile teams doing the actual implementation work defining, building and testing the features of initiatives. Team can use the agile method that fits best for their way of working or the type of tasks they are handling. One agile team has 5 to 9 people working in the roles of Scrum Master, Product Owner and Development Team. The Scrum Master has responsibilities over maintaining the teams focus on its tasks and also collaboration of other agile teams Scrum Masters in the ART. The team backlog is owned by the Product Owner who is acting as the customer for the team. The Product owner also prioritizes the work and plans the team objectives with the Product Management. The Development team has multiple tasks and roles while creating the detailed definitions for the stories of features and building, testing and delivering them. (Leffingwell *et al*., 2017)

If the organization is building large integrated solutions and has to handle several value streams in the portfolio level, then the framework can be extended and an optional Value Stream level added between the Portfolio and Program levels shown in figure 4. This level introduces the roles of Solution Management, Solution Architect and Value Stream Engineer and thus following the same triangle of roles in the other three levels. (Leffingwell *et al*., 2017)

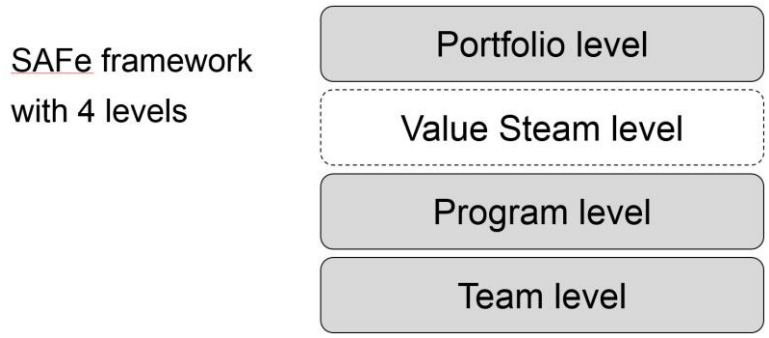


Figure 5 SAFe framework with 4 levels including the optional Value Stream

4.1.2 ITIL

Information Technology Infrastructure Library (ITIL) represents, as it name stands for, a set of best and tested practices, activities and processes for IT service management. According to its methods the IT service providers combine people, processes and set of information technology to manage the IT service. The ITIL framework was first used in the UK government but was fast adapted in wider use throughout the service industry. According to the framework the service is something customer will get value from without owning costs or risks. The value is produced by the activities in a process. The activities themselves combine other processes and capabilities to produce the required outcome. (ITIL Foundation 2011 Edition, 2014)

The practices relevant to the business challenge are found from the ITIL Service Design and ITIL Service Strategy definitions. They are management functions as well as set of best practices. The ITIL Service Design transforms the service strategy to a service and service assets. These are governed by ITIL Service Portfolio. The service portfolio is kept in line with the service strategy with a continual service Improvement. This is done using a Deming Quality Cycle PDCA (Plan, Do, Check, Act) where ITIL uses renamed activities called Define, Measure, Govern and Manage / Lead. To transform the strategy to the Service, the ITIL Service Design uses people, processes, products and partners. Products can include services, technology or tools. Partners can be found from providers, producers and sellers. (ITIL Foundation 2011 Edition, 2014)

Key roles related to defining and managing the service development are Service Owner and Process Owner. They manage and define the processes that fit for the purpose.

The Service Owner is also accountable (profit and loss) for the given service. These roles are needed to run and fit the best processes and activities to bring best value for the customers. (ITIL Foundation 2011 Edition, 2014)

4.1.3 IT Standard for Business

The IT Standard for Business (IT Standard) is an open source framework to run and manage the IT together with the business. It has been developed with hundreds of individual experts from IT field. The framework is in its third version and utilized by many Finnish international companies where the methods have been tested and improved. IT Standard presents five elements to manage the IT called Enterprise Development, Strategy and Governance, Sourcing and Supplier Management, Project and Development Management and Service Management. (IT Standard for Business, 2017)

The Service Development and Design which is part of the Service Management element describes the Change and Release Management. Presented by that definition the process starts from development backlog which includes new development needs, continuous small enhancements and change requests based on incidents and problems. These initiatives are taken through Change and Release Management process by first categorizing and prioritizing them as normal, standard or emergency change. The normal change requires a separate planning and is often implemented as a project with its own pre-scheduled release and deployment cycles defined for the service. The standard change can be deployed in faster intervals or on-demand. The emergency change needs its own faster track and is deployed on-demand. Handling of these three types can be seen from the figure 5. (IT Standard for Business, 2017)

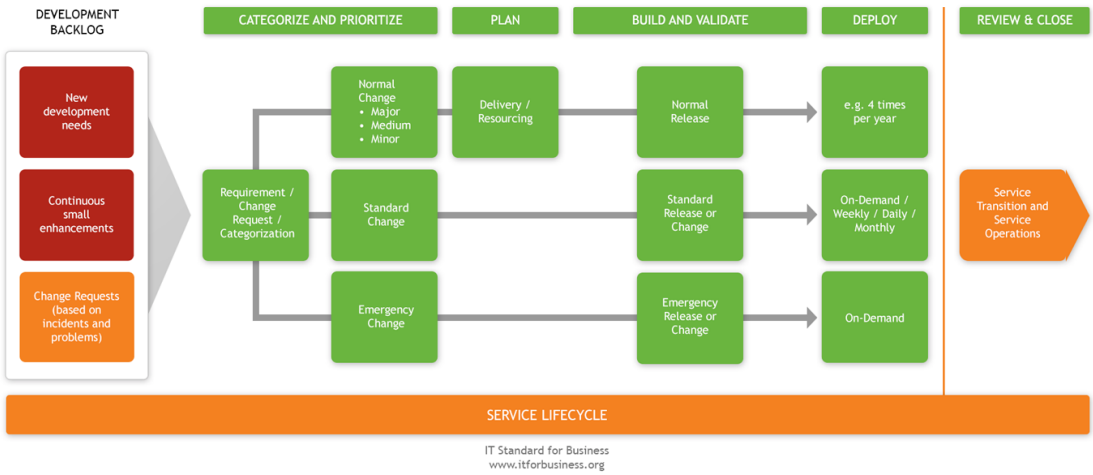


Figure 6 Handling changes (IT Standard for Business, 2017)

New development is described in the Project and Development Management element. According to the IT Standard the organizations should have a Development Management Office (DMO) instead of Project Management Office (PMO) as so many changes in the business are more than just projects. The development initiatives are managed in four levels as either project-based development (Program or Project level) or as change-based development (Release or Change level). The overall steering is made by Portfolio Management. The Program level development is authorized by corporate governance, the project level by project portfolio steering group, the release by service steering group and the change by change advisory board (CAB). (IT Standard for Business, 2017)

The key roles in Service Development are Service Owner, Project Owner, Process / Solution Owner, Project Manager and Business Lead. The Service Owner plans the Development Roadmap which gets the initiatives from business projects, concept development, key users and service integration. The initiatives are bring to the Development Backlog. Their evaluation and prioritization is done by Development Portfolio Steering function with the help of DMO. Development Management Offices role is to validate the pre-study and business case. The Portfolio Steering will then authorize the planning and execution. (IT Standard for Business, 2017)

4.1.4 Product Strategy and Product Roadmap Practices

According to Pichler (2016) the company vision should drive the product vision and the business strategy. Product strategy should be in line with its vision and the business strategy.

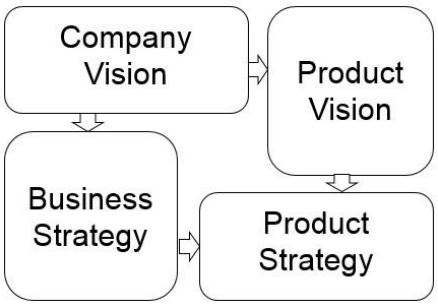


Figure 7 Company Vision drives Product Strategy (Pichler, 2016)

The goals and metrics defined for the product can be laid out in a three-tier approach. The Product Strategy with the longer term plans, Product Roadmap for mid-term plans and Sprints defining the short term plans. (Pichler, 2016)

Based on the same three-tier concept the requirements can also be handled in high, middle and low level specifications. The high level Market Requirement Document is created and maintained by the role of Product Planner. The Product planner is the market expert and defines what should be solved with the product. She takes the users view of the solution and knows the actual problems and requirements the end user wants to solve. The middle level definitions are written in the Product Requirement Document. The Product Architect Role is responsible of maintaining this document. Being a Product Expert, she takes the market requirement and defines how it should be solved. Understanding the product offering and possibilities she defines the solutions that can fulfil the requirement. The low level technical specification is done by the Lead Developer who is the technical expert. She has the capability to specify how the solution defined by the Product Expert should be build. The Lead Developer works with the development team to maintain the Technical Specification Document. (Steinhardt, 2010)

The product management is a wide concept. The role of Product Manager alone consist often many sub-roles which could be taken care by different people. The four sub-roles of Product Planner, Product Marketer, Sales Engineer and Marketing Communi-

cations Manager have enough tasks to be given for separate people when managing a bigger products. For example the Product Planner can have tasks related to market analysis and requirements, product use cases and roadmap and pricing model. The Product Marketer could take care of analysing and evaluating the product oriented business opportunities, market plans and planning marketing efforts. (Steinhardt, 2010)

The product roadmaps include two basic types. The feature-based roadmap links planned new product features to a scheduled release in the timeline. It predicts when the given feature would be available. The goal-based product roadmap has a different approach. It defines product goals and maps those to the timeline. There are still goal specific features that are necessary to meet the goal, but they are not the key anymore. The roadmap can be successful even though some of the features would be missing or changed as long as the goal has been reached. The goal could be for example getting better customer feedback or getting rid of technical debt. Goal oriented high-level roadmap gives best results for young product in a dynamic market. The planning horizon should be kept under six months and reviewed at least monthly. Goal oriented roadmap is a good choice also when the product is young and market stable or the product is mature and the market dynamic. Feature based only roadmap should be used just for mature products in a stable market. The product roadmap is a living document and not a guarantee of future features. The goals and features selected in it should have grounded decisions behind them as the roadmap should always present the best plan that could be made based on the market and competitor analysis. (Pichler, 2016)

4.1.5 Highly Effective Teams

Every team has some formal or informal processes to work towards a common goal. It is almost the minimum requirement that the team has a goal. Without it the team is just group of individuals working with some separate tasks. To start evolving towards a highly effective team the goals need to be very clear. The goals has to be specified but also communicated clearly and regularly when needed. The team has to have also plans to work from the current state to the defined goals. Without any plans to progress the goals are not meaningful. The next state is to define the team roles and their responsibilities. Clear roles gives all the understanding of their and their colleagues place in the team. Defined responsibilities helps even more to know what is expected from

everyone on their road to the goals and it will facilitate stronger collaboration. (Nir, 2013)

Individuals bring their own strengths to build an even stronger team. People have their own viewpoints and abilities that make them effective when compared to the others. If the goal is to build a highly performing team working with wide spectrum challenges and customer, then it is recommended to value and promote diversity in the team. (Nir, 2013)

Whether the team is local or virtual, small or big or a mix of everything, there is never enough communication to boost the team performance. It does not matter how mature the team is, communication is always needed. It can be formal or informal, but the plans and goals need to be understood by everyone. Increasing communication will also strengthen the team relationship, which is really important with the virtual teams. When channels are open between team members and they communicate regularly, the collaboration gets easier and it enables everyone to get constant feedback. (Nir, 2013)

4.1.6 Decision making, clear roles and responsibilities

According to Courtney *et al*. (2013) the managers are facing problems with decision making. The challenge is not about the tools. There are tools available for different cases and situations but managers are missing clear guides what tools should be used and how to use them. Without proper guides the decisions are made using the tools available with probably giving totally wrong results for the given case. (Courtney *et al*., 2013) This implies that decision making tools have to be selected for the need and avoid using something known and available just because it has worked before in other cases. Conclusion can also be made that all tools need proper guides or there is change of misinterpreting the results.

Making correct decisions quickly and being able to follow them is essential for having a high-performing organization. Not being able to do that will make your business to lose market shares. According to a survey made with 350 global companies and their executives, it was found that only 15% of them said their organization helps outperform competitors. The difference in their organization was their ability to make good decisions fast and see they were executed properly. The decisions most influential to the performance were related the problems how to drive the product innovation, position

brands and manage channel partners. (Rogers and Blenko, 2006) This suggests that it is necessary to have clear roles and responsibilities to enable good decision making. Rogers and Blenko (2006) goes on to saying that “many companies struggle to make decisions because lots of people feel accountable – or no one does”. Their answer to define correct roles in organization is to analyse the decision making with tools like RAPID, which stands for Recommend, Agree, Perform, Input and Decide. The decision making and its execution process does not follow that order but they clearly define who has what responsibilities in the process.

The decision making and preparations involved are two different phases in the process. It is important that the recommendation for decision is properly prepared and all involved stakeholders can have their input on the matter. But it is not the group that makes the decision. There should always be one authority to say the final word. Decision can only be made by a person held accountable of it. If a group is not responsible for the decisions, which they rarely are, they cannot make them. (Rohweder, 2016)

4.1.7 Metrics and Key Performance Indicators

After the vision, strategy and goals are set, they need to be implemented. Same applies for the initiatives. Without implementation there are no results. To know whether the results follow the original target setting, there need to be way to measure and evaluate them. With the correct indicators, it is possible to fine tune and tweak the implementation practices and processes and make right decisions to better fulfill the given vision, strategy, goals and required initiatives.

According to Pichler (2016), there is a link between product strategy, product roadmap and sprints where the strategy guides roadmap planning and through that also the sprints. As they represent different levels of planning and time scales, they also need their own measurements, which then give feedback back from Sprints to Roadmap planning and all the way to refining new Product Strategy.

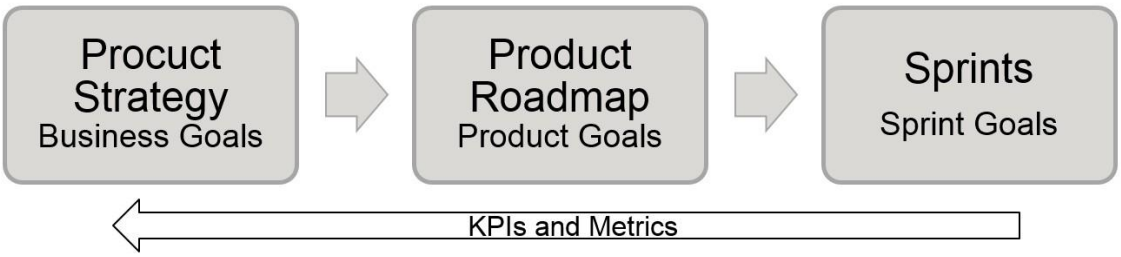


Figure 8 Goals and Metrics (Pichler, 2016)

By the Figure 7 (Pichler, 2016), Product Strategy defines the business goals and should be measured with the key performance indicators suitable for a long-term. To be able to define effective metrics, the business goals have to be measurable. They should be clear and also realistic, and they should be different for new product or one that has been in a market already for a while. One example business goal is to make x % more revenue and then one of the indicators should then tell how well that goal has been reached. The selected business goals give the right context to define the Product Roadmap goals which again affects the same to the needed Sprint goals. While Product Strategy looks further in time and needs long-term key performance indicators, the Product Roadmap metrics should give feedback from mid-term and Sprint metrics from short-term performance.

Indicators come as two basic types. The lagging indicators are backward focused and include for example the revenue and profit. Those are in the past and can't tell much about how the product or service will do in the future. With lagging indicators it is hard or impossible to do decisions on the direction needed. Leading indicators give information about the possible future. Measuring product quality can give hints about the challenges in future development if the code base comes more complex and harder to maintain. Key performance indicators or metrics should have both indicator types to balance the view of service or product performance as of now and in future. (Pichler, 2016)

To avoid biased target setting or metrics Johnson *et al*. (2015) brings forward the balanced scorecard approach. Using also other perspectives than just the financial will give better overall performance feedback. While financial perspective might have the profit margin or cash flow indicators, adding also customer, internal, and innovation and learning perspectives gives wider and deeper knowledge of the total performance. These additional perspectives can include indicators as delivery times, service levels,

operational effectiveness and investments in training and research. Suggested by Pichler (2016) measuring the product performance using a balanced product scorecard with four perspectives of financial, customer, product and process, and people will make sure that all the necessary indicators are analyzed to get the realistic status. It also minimizes the risk of not noticing some important trends.

4.1.8 Strategies for development drivers

Strategy defines the company's target state as well as the actions and steps needed to get there. It is also defining what choices will be out of scope. The common problems with strategy are that it is not understood by the workforce, not linked to budgets, organizations are not aligned with it and the executives can't really describe it. To make it successful the strategy should be clear and easy to communicate. But it should not be just marketing slogans, strategy needs to reach and be understood all the individuals in the organization to drive the change. (Rohweder, 2016)

One way to plan a clear strategy summary is to define the four key concepts; vision, business area, growth strategy and competitive strategy. Vision defines the company overall target within next 3 to 5 years. Business area describes in what product and service areas and in what geographical location the company is operating and for what customer segments. Growth strategy defines the target growth and the way it will be measured. Competitive strategy tells how the company will compete and what its value proposition is. (Rohweder, 2016)

Company can get its driver for development directly from customers or from well thought strategy. It can just listen to customers' feedbacks and requests and build its offering based on that, but that might not turn to a successful future. Certainly by going that direction the company is not making its own decisions. Creating a strategic plan for the development the company at least has thought about the choices and set the direction of its own even though it would be based just on the customer needs. The real competitive strategy is built on the knowledge of company's competence, competitors' offering and the customer needs. In the cross-section of these three circles is the key area that will make the ground to build the competitive strategy. (Rohweder, 2016)

Companies competing with existing products and services the choices for strategic direction are market penetration or market development. From these two the market

penetrations is most likely option for companies trying to increase the market share with existing products in existing markets. This option does not require new strategic capabilities or moving to an unknown areas, but might become challenging with existing competition or economic recession. With the market development strategy the company offers existing products or services to new markets. It is not as risky or expensive as building new products but often requires some product development as well. Market development strategy targets to new users and/or geographies and is crucial that the offering meets the requirement of the new market. Just using the same products or services in new markets without making proper requirement analysis and investing in marketing skills will likely make the strategy fail. (Johnson *et al*., 2015)

Balanced scorecards are widely used as a basis for the strategy execution. Using scorecards it is possible to plan the actions and help the implementation based on the strategic choices. Employees understand the strategy and the expectations it brings to them when scorecards are defined to every organization levels from top to the individuals. (Rohweder, 2016) To make the strategy execution even more successful the three key issues of organization structure, systems and leading the strategic change should be in place. The organization structure refers to the roles, responsibilities and lines of reporting. The systems support and control people in the organization by providing planning, cultural, market and performance targeting systems. Leading the strategic change considers different leadership roles and styles as well as what type of the change is. Roles of top management and middle managers are important when crystalizing the vision and strategy for internal and external stakeholders and when communicating the strategic choices and the action needed in the organization. Styles of the leadership includes persuasion, collaboration, participation and direction which all have their own advantages and disadvantages. (Johnson *et al*., 2015). Meetings are one effective way to communicate the strategy. Managers can get their teams aligned with the strategy, embower individuals and commit them to the change. Choices have to be made what type of strategy meetings are held with the team as there are times to build the strategy, implement the strategy and follow-up the implementation of the strategy. (Rohweder, 2016)

4.2 Existing options in other parts of the case company

Following chapters presents the existing options and experiences found from other parts of the organization and business units.

4.2.1 Practices and processes

When reviewing the organizations existing practices and processes it was challenging to find anything that would fit for the purpose. While the problem is related to having multiple services using same core products, no descriptions or documents was found to define any concepts or guides to solve that challenge. The organization has nonetheless very excellent and extensive process guides for everything else that have been adapted for the business operating model. These are in line with the IT frameworks used in the industry and thus define procedures example for offering lifecycle, mid-term plan, service management method, investment review, project management and strategy and portfolio management. Unfortunately they didn't provide any help needed on the levels of efficient initiative handling in the organization and didn't add anything new the literature reviewed earlier. (Case Company, 2017)

On the other hand usable practices were found from the service lifecycle process template which could be used as an example to define one part of the initiative handling process and the investment review process to model a concept for reviewing initiatives. The investment review process uses a comparable criteria and 3 level decision making steering groups. Three level evaluation is also used by the organizations project management office used to review the starting projects complexity, finance and risk. (Case Company, 2017)

4.2.2 Experiences from other teams

Discussions with teams in the other parts of the company has revealed that the same challenge exists elsewhere too. According the team managers they have not found any better way to handle the initiatives and are waiting to hear from an improved model. One of the team was considering to initiate the Change Advisor Board (CAB), but no results were available at the time of the discussion.

4.3 Conceptual Framework

Selecting best practices and processes need to address the weaknesses found during the current state analysis. Based on the analysis work around initiative handling the conceptual framework should concentrate improving the communication, strategy and goal setting, decision-making process and resourcing. It should be related to the product and service management and development process and focus on efficient handling of initiatives.

Using the best practices and frameworks usable for this case, a high level conceptual framework was first assembled as shown in the following figure.

Figure 9 Conceptual framework – first high level draft

The previous figure shows the conceptual framework having all the core weaknesses taken into consideration separately. When taking the current state analysis results and analysing the concepts, the framework can be simplified to focus to Initiatives, Strategy & Goals and the Roles & Responsibilities & Organization. When these concepts are clear and implemented, the rest will follow. This reasoning is based on the argument

that before anything can be defined about the Resourcing all the other presented concepts should be defined. Strategy defines the themes and goals that the services should focus on which will then affect the product and service development team sizes. All the roles should be also defined as without them there would not be clear understanding what the needed capabilities in the teams are. The processes and documentation are included in the other concepts. Hence the final conceptual framework used is shown in the following figure.

Figure 10 Final Conceptual Framework

This conceptual framework is focusing on the key concepts that will be discussed on the next chapter when initial proposal is build.

5 Building an operating model to facilitate efficient product and service development

The target in this phase was to use the results from the current state analysis and look at the best practices and frameworks found from the business and research literature in the previous chapter. Using this knowledge and the conceptual framework assembled it was possible to start building the proposal for an operating model to improve the product and service development in the context of effective handling of initiatives. Any practises and processes found from the organizations other units were also used if applicable.

5.1 Overview of this stage

The following figure (Figure 11) shows the initial proposal for the product and service development operating model accompanied by the textual description (Appendix 2).

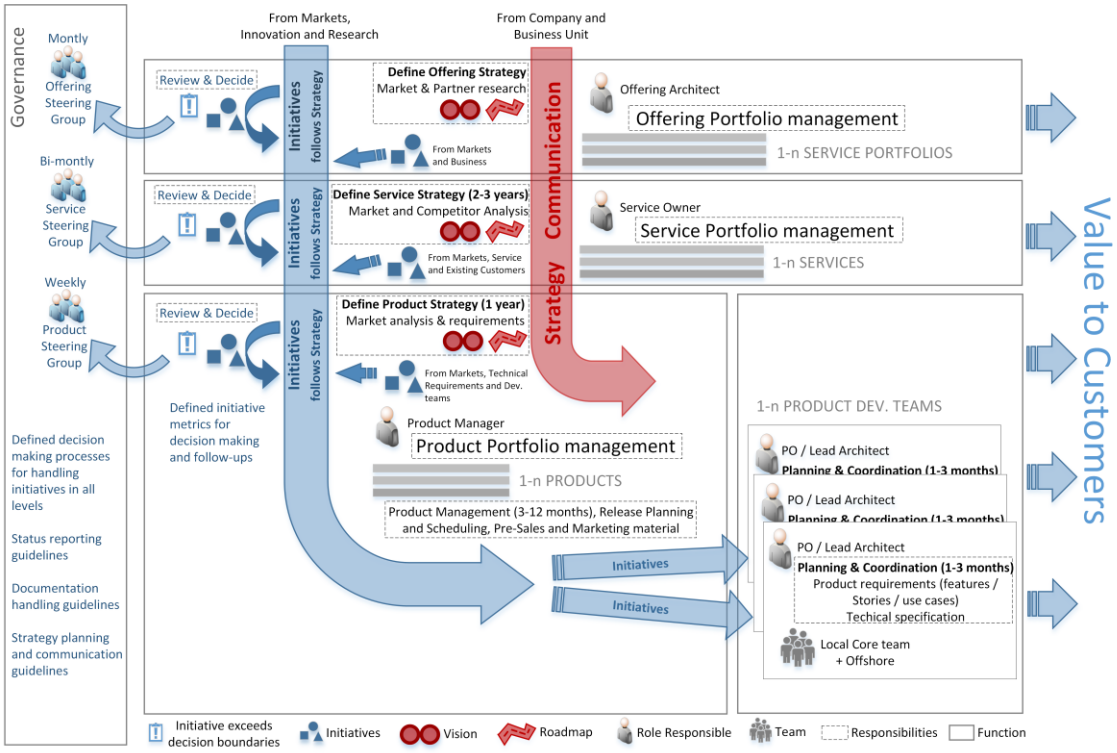


Figure 11 Initial Proposal for Operating Model

This proposal is the result of multiple workshop held with the project team members (Table 7). Ideas that emerged in the regular project team meetings kept in weekly basis were also collected to researcher's field notes. Discussions held were open without any planned questionnaires other than the topics how to address the weaknesses and utilize the found best practices. Dedicated workshops to work on building the proposal were held 2 times with the Project Manager (from December 2016 to March 2017), two times with the Business Development Manager (from February to March 2017) and one time with Core Product Owner (February 2017). Meetings were mainly held as one to one. Two meetings with Project Manager were kept using Skype because of different office locations. Data collection details are shown in the following table (Table 7).

Table 7 Data collected during initial proposal building phase

Role of the informant	Date	Length	Type of questions	Collection method
Core Product Owner	28.2.2017	1h	Open discussion, group meeting/face-to-face	Field notes, Visio drawing
Project Manager	19.1.2017 30.3.2017	4h 1h	Open discussion, Skype	Field notes, Visio drawing
Business Development Manager	28.2.2017 28.3.2017	1h min 45 min	Open discussion, group meeting/face-to-face	Field notes, Visio drawing

In those meetings the weaknesses of communication, strategy and goal setting, decision-making process and resourcing found during current state analysis and best practices summarized by the conceptual framework were discussed to develop drafts for the operating model. The stakeholders' requirements were also taken into account. Eventually the initial proposal was created using all the comments and feedbacks received during the workshops. Color codes were used to better state the link between conceptual framework with blue indicating the initial handling practices, red indicating the strategy and goals practices and the rest of the model as gray forming the organization structure with roles and responsibilities.

The used icons and their descriptions (Figure 12) at the bottom of the picture help to read and follow the operating model.

Figure 12 Icons and descriptions

The next chapters discuss in details the parts that form the proposed operating model.

5.2 Building the Organization Structure

While based on the current case company organization structure, the new proposal was influenced by SAFe 4.0 (Leffingwell *et al*., 2017) and ITIL (ITIL Foundation 2011 Edition, 2014) frameworks. Both SAFe and ITIL have multiple levels in their frameworks to manage product and service development organizations work. SAFe is also scalable from medium sized to huge having several hundred employees working for one common goal. The following figure (Figure 13) shows the organization functions selected for the initial proposal.

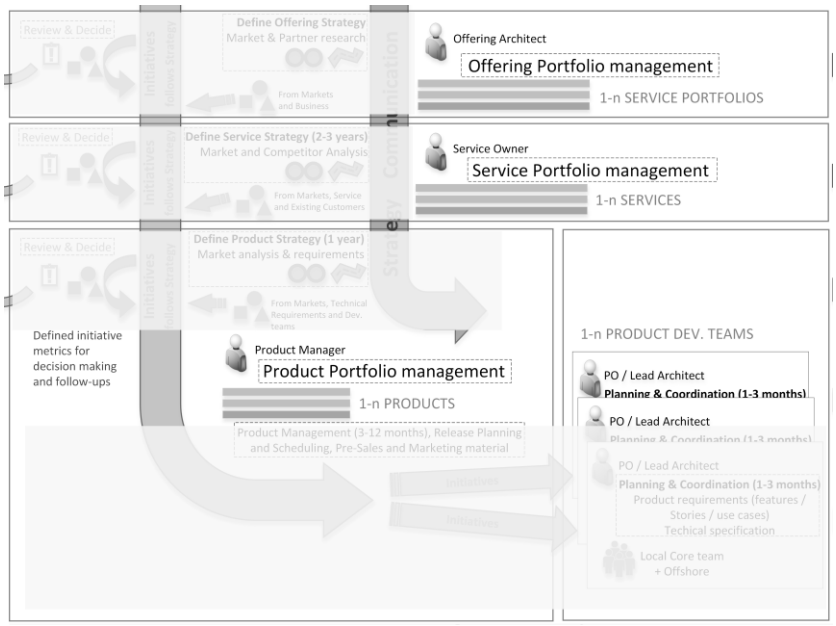


Figure 13 Organization structure in Initial Proposal

The Offering portfolio management coordinates all the service portfolios related to the given context which in this case is the Identity and Access Management offering

throughout the case company organization in the EMEIA. It is responsible of managing one to many service portfolios.

The Service portfolio management concentrates on coordinating one aspects of Identity and Access Management services which are based on the same set of products. Like the Offering portfolio, the Service portfolio management is responsible of managing one to many services.

The Product Portfolio management coordinates the development of one to many different products that form one bigger product group. Every product has its own development team and Product Owner.

5.3 Defining the Roles and Responsibilities

The definitions for the roles and responsibilities are most considerably based on the work of Steinhardt (2010) and the framework of SAFe 4.0 (Leffingwell *et al*., 2017). The other adapted practices are discussed in the vertical models of initiative handling practices and strategy and goals practices.

Offering Architects responsibility is to coordinate the offering portfolio development at the top most level and making sure it is aligned with the case company's strategy. He looks over a longer period of time from two to three years when planning the vision and roadmap of the whole offering (Figure 14). For multiple big or complex service portfolios there could be more than one offering architect to coordinate them. His tasks include market and partner research as well as reviewing the top level initiatives and deciding their acceptance as long as he has the authority over them.

Figure 14 Offering Portfolio management by Offering Architect

Service Owner has the similar role and responsibilities as the Offering Architect but he coordinates the development of the service portfolio. Service Owner also ensures that his portfolio is in line with the strategy coming down from the Offering level. He plans

the vision and roadmap from two to three years for the one service portfolio (Figure 15). Service Owner analyses markets and competitors to verify the correct actions are made for the competitiveness of his services. He reviews and accepts initiatives handled in the Service Portfolio level.

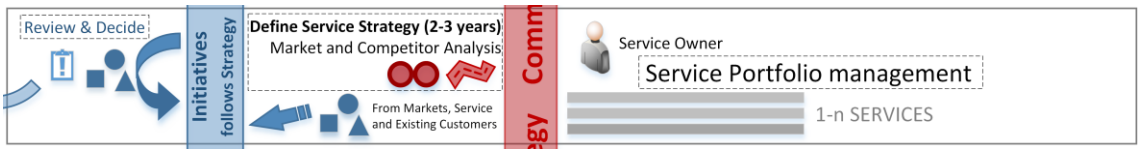


Figure 15 Service Portfolio management by Service Owner

Product Manager also coordinates a portfolio (Figure 16). His responsibilities include the management of Product Portfolio which is a group of products used as a basis for a set of services. While doing also market analysis, Product Manager defines the market level requirements for the portfolio and plans vision and roadmap for a one year life span. Other responsibilities included in his role are the actual product management, release planning and scheduling over the portfolio, pre-sales and sales support, and preparing the marketing material. Product Manager reviews and decides the development of initiatives at the Product Portfolio level.

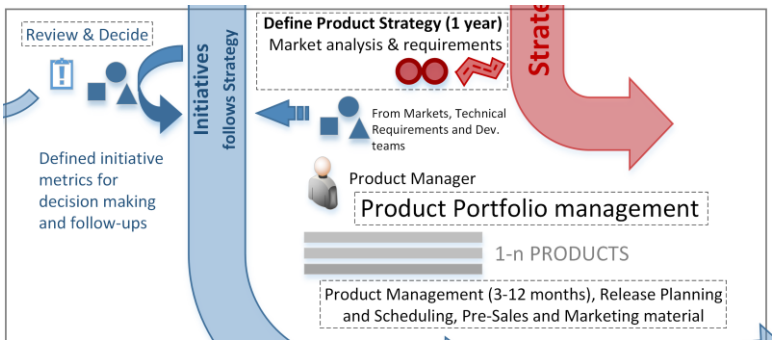


Figure 16 Product Portfolio management by Product Manager

For every product there is a Product Owner who plans and coordinates the actual product development with the development team (Figure 17). It is possible that smaller products / teams share the same Product Owner. His responsibilities include the planning and coordination from one to three months' time period, defining the product level requirements as a features and stories. If also working as a lead architect the product owner participates in the technical specification together with the development team or the lead developer.

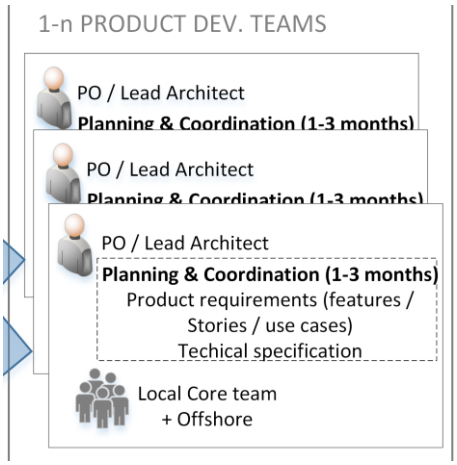


Figure 17 Product development team coordinated by Product Owner

Steering groups (Figure 18) are formed in the levels of Offering, Service and Product portfolio management. Their task is to help and give support for the managerial roles in their work and participate in the decision making processes. Steering group meetings should be held regularly and more often in the product management level to support fast decision making.

Figure 18 Steering Groups

Coordination of the product and service development has to be straight forward and done without every time needing the feedback from upper level management. As long as decisions follow company's offering strategy and goals they can be made on the corresponding management level. Agreed initiatives should then follow the selected product and service development process while keeping in mind what drives it (market, customer, sales or technology). This will keep all the priorities clear and work focused only on the most important tasks. All other tasks should be considered something that

might steer the focus away from the goals. Everything has to be clearly communicated from top to down so that everyone understands the reasons behind the decisions and the consequences if they are changed. Steering groups are still needed for product, service and offering management levels as all the decisions requiring stronger authority can be introduced to them.

5.4 Building Initiatives Handling practices

Two of the goals for the proposed operating model was to enable fast and clear decision making (Rogers and Blenko, 2006) in the initiative handling as well as define requirements specification practices (Steinhardt, 2010) for the product and service development. These are described in the following figure (Figure 19).

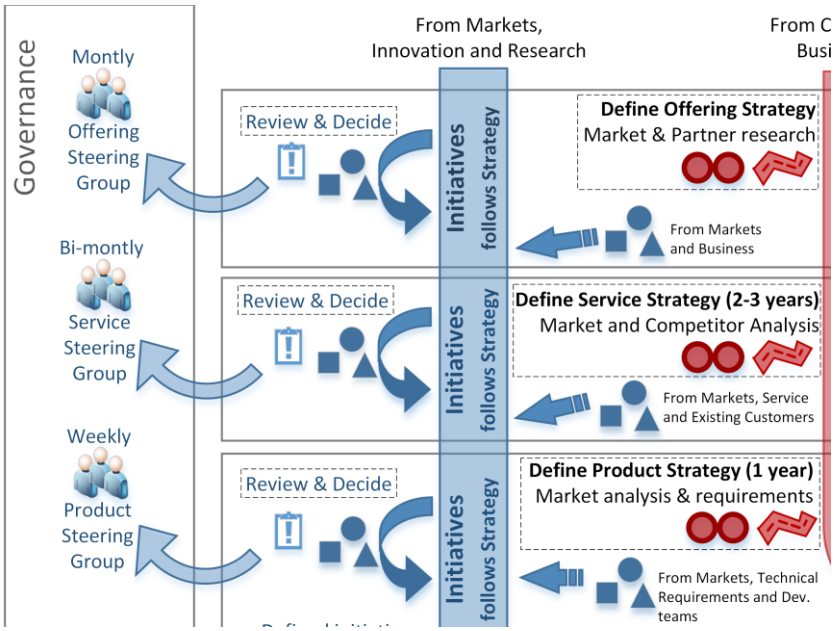


Figure 19 Initiative handling practices

Initiatives can be introduced in every level of the offering, service or product management and they have to follow the strategy. Starting point for the initiative flow from the top are the markets, innovation and research as pointed out by the Business Development Manager from the project team. At the offering level the initiatives come from markets and business requirements and from the work of partner research in a possible 3rd party product or service usage. At the service level the source for initiatives are the markets and competitor analysis, service vision and roadmap and the existing cus-

tomers the case company has in the production using the related services. At the product level the initiatives come from the market analysis and requirements, and functional and technical requirements brought up by the development team.

Offering, service and product portfolio level managerial roles have the responsibility to review initiatives formed in their levels and the authority to make the grounded decision to accept it for the development. Initiatives have to follow the strategic choices made and they need to stay in the boundaries of the authorized levels. The initiative is proposed to include the properties and metrics of Size (Opportunity, Epic or Small), Description, Type (for example maintenance or new development), % in line with Strategy and goals, Cost, Benefit / ROI and Complexity / Risk. Some of these metrics would trigger different acceptance processes if boundaries are surpassed. These could be the size, cost, complexity/risk and % in line with strategy and goals. If the decision can't be made by the responsible role, the initiative is taken to the corresponding steering group. These practices are based on the IT Standard for Business (2015) and the case company's processes (Case Company, 2017). The goal is to embower people to do their work without needing to search for decisions for what they should have the authority.

The operating model takes also in to account the need for defined metrics to monitor efficiency (Pichler, 2016) and defined communication practices to improve the knowledge of plans, goals and statuses (Nir, 2013) by stating these in the form of requirements (Figure 11).

5.5 Building Strategy and Goals practices

Strategy and goals practices were depicted in its own vertical model just besides the initiative flow (Figure 20). It defines how Vision, Strategic themes and Roadmaps are used in the levels of development (Pichler, 2016; Leffingwell *et al*., 2017).

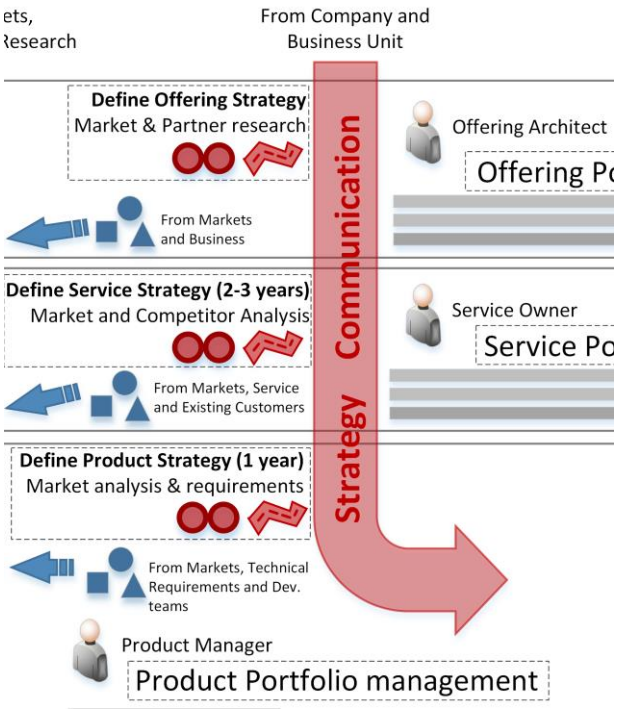


Figure 20 Strategy and Goals practices

Strategy, vision and roadmap are defined and planned in all the three portfolio levels (Johnson *et al*., 2015; Pichler, 2016). Offering level has the widest and furthest vision and strategic plans for the whole offering. Service strategy defines the two to three years' time frame and plans the vision and roadmap accordingly. Product manager uses the market analysis to great requirements and form the product strategy for a one year. All the knowledge or market, partner and competitors analysis are in use for all the portfolio level managerial roles. Strategy is communicated down from Offering portfolio to the product level and below by the key responsible roles of Offering Architect, Service Owner and Product Manager. Detailed strategy planning and communication practices (Rohweder, 2016; Johnson *et al*., 2015) were defined as requirements and can be seen in the overall operating model (Figure 11).

5.6 Summary of Initial Proposal

As the case company had challenges to handle initiatives effectively and communicate its vision and goals from top level to the individuals, the proposal tries to solve them with operating model that is clear and simple but still manages to include every crucial aspects to show the solution (Figure 21).

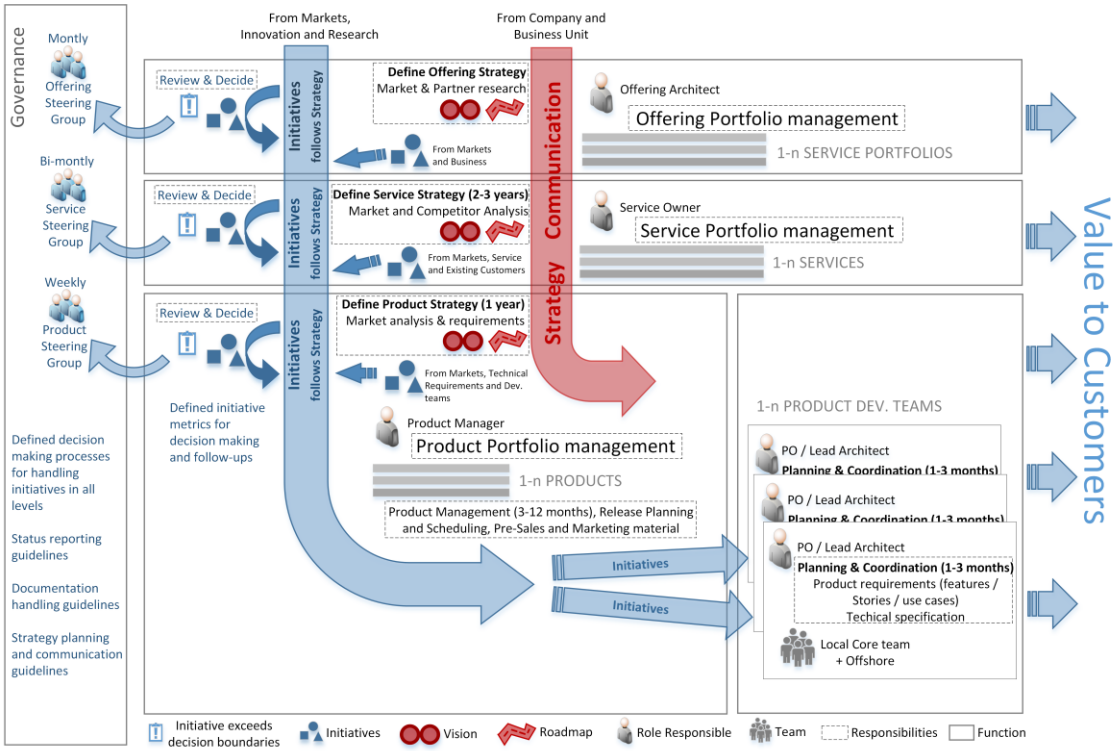


Figure 21 Initial Proposal for Operating Model

Target was to enable transparency to all the development throughout the organization and bring the business point of view to the everyday work on all levels so that decisions made are based on correct knowledge without the need to escalade every decision. The initial proposal addresses also the stakeholders' requirements to create an operating model that would support a bigger organization, empower people, improve communication and foster bigger picture thinking and understanding.

The next chapter discusses the feedback received from stakeholders and project team and how they influenced to the final proposal.

6 Feedback on the proposed operating model

This section goes through the feedback received for the initial operating model proposal created in the previous chapter and explains what changes they reflect to it. Then it goes to show the final proposal and summary of the section.

6.1 Overview of this stage

Last data set was collected during the evaluation of the initial proposal. Stakeholders were invited to have a group discussion around the proposal. One review session was arranged as face-to-face with the two stakeholders. Comments were also asked from the project team by email because at the time it was challenging to arrange a discussion session. No questionnaires were used. Researcher made notes during the stakeholder group discussion about what works and what does not. Feedback was also received from the project team. The Core Product Owner had improvement ideas and those were received by email. All these results were used the build the final proposal. Table 8 shows the data collection details for initial proposal review.

Table 8 Data collection details for the initial proposal review

Role of the informant	Interview date	Length	Type of questions	Collection method
Offering Architect	31.3.2017	30 min	Open discussion, group meeting	Field notes
Team Manager/Service Owner	31.3.2017	30 min	Open discussion, group meeting	Field notes
Core Product Owner	31.3.2017	-	Request for comments from the Project team by email	By email

6.2 Feedback Received

All the feedback received was collected to the power point slides. The overall impression was that stakeholders were pleased and the proposed operating model would be considered for the organization. Both stakeholders felt that the operating model looked good. One suggestion from the Offering Architect was to present this as target operating model to the colleagues in UK for the discussions of the way to collaborate and to build the organization together in EMEIA.

Stakeholders had couple improvement suggestions to visualize the feedback loop from teams and control over the results as well as adding Deployments & Rollouts function to the model. Core Product Owner supported the idea to add the function in the model. He also presented the idea of having feedback loop from the customer but more importantly visualizing the Service Improvement process to the model if possible. Other suggestions of his were related to crystalizing the connection between the conceptual framework and proposed operating model by harmonizing the language used.

6.3 Improving the Proposal

Most noticeable improvements were the adding of Rollout Project management and the feedback arrows for initiatives and strategy to visualize the monitoring of the metrics and key performance indicators. The Rollout function (Figure 22) was added above the Product Development teams to depict how initiative during service rollout will be handled and how Rollout project also is receiving and measuring the results of development team.

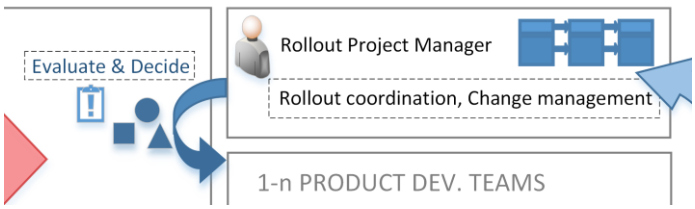


Figure 22 Rollout function added to the model

Initiatives appearing during service rollout phase are changes to the project. All those initiatives that would also require product development are forwarded the Product Port-

folio management function to be evaluated before decision making. It follows the same decision making process what Product Portfolio already has and all initiatives requiring stronger authority need to be presented to the Steering group.

The Service Portfolio management had the notion that initiatives can form from service and existing customer. It was proposed to show it visually too and therefor the continuous improvement as plan, do, check and act circle was added to the model (Figure 23).

Figure 23 Service Portfolio management with added PDCA

The feedback loop and control over results was added to the right side of the model to show how metrics and key performance indicators are followed and measured by the above functions (Figure 24). They follow the same coloring as Initiatives flow and Strategy & Goals.

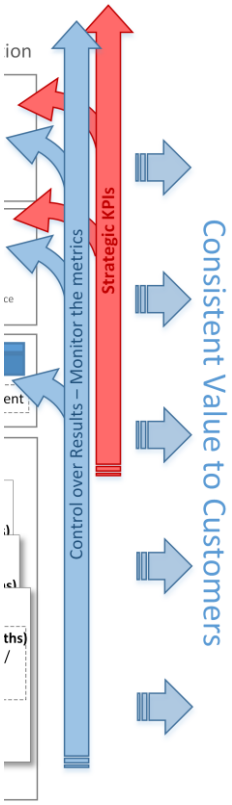


Figure 24 Monitoring the metrics and KPIs

Suggestions were also received to include the Deployment function and to portray the Product Development teams the same way as the Portfolios. These ideas are good to include in the further studies when expanding the operating model. As the output of this thesis was to concentrate to the efficient initiative handling and the weaknesses did not so strongly suggest any challenges in these areas, they were left to a lesser attention, but nevertheless would be good addition in an operating model with a wider view or one concentration especially to the Development and Operations.

6.4 Final Proposal of the Operating Model

The final proposal for the operating model is shown fully in the following figure (Figure 25). All the changes are marked with orange dashed line. As seen from the model there are some minor changes too. Their goal is to improve the message and make the presentation more clear and use the same words throughout the model. Additions were made to include Pre-Sales in the start of Initiative flow and communication practices for Governance.

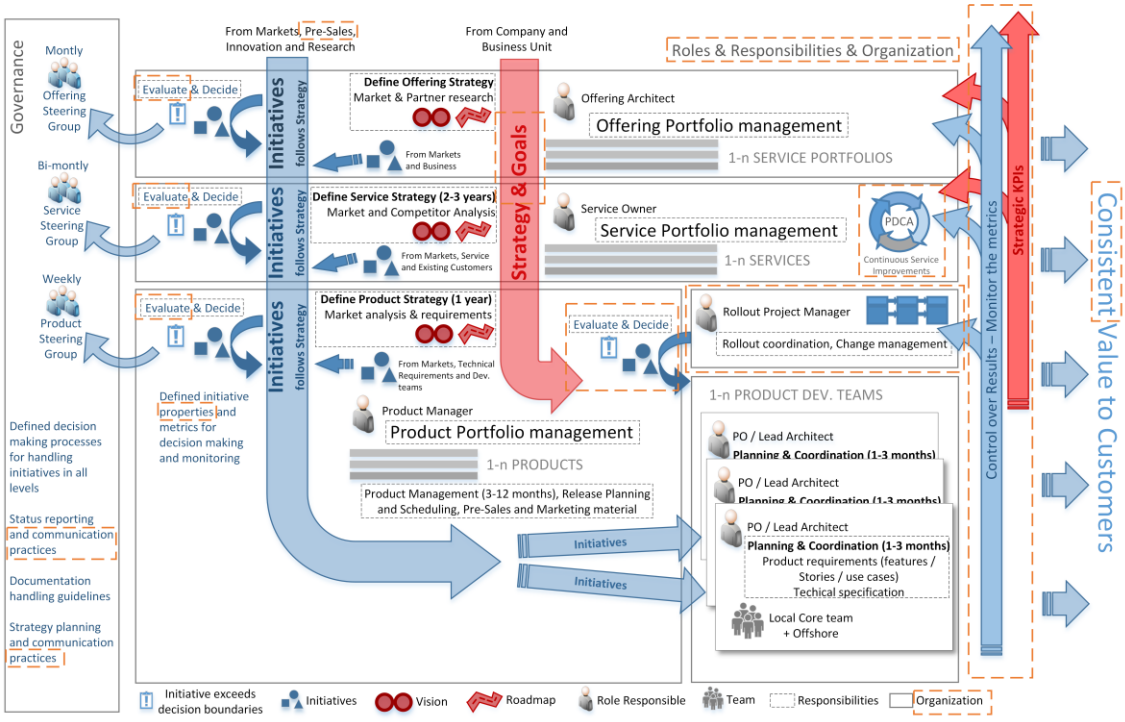


Figure 25 The final proposal for operating model with changes highlighted

The next chapter will end the Thesis with a summary, recommended next steps and thesis evaluation.

7 Discussion and Conclusions

This sections target is to present the thesis summary with recommendations for next practical steps. It also evaluates the thesis project by looking into its methods and their validity and reliability.

7.1 Summary

The thesis work started with a challenge the researcher had in his company. Being part of bigger organization around the security business the development team had successfully produced many of the key services and products. Now the team needed to find out better ways to efficiently handle the initiatives being targeted at the services using the same core products. Special focus was set for the latest service that differs from the others as it will Growth targets, collaborations with international units and unification of service offering in EMEIA bring pressure to find improvements rapidly.

The project plan was to utilize the action research approach and participate the stakeholders and project team for collaboration and bring change. The design included four main phases to make the current state analysis, review the literature and existing models, build the initial proposal together with the team and last get the feedback from both stakeholders and team members to get the improved final proposal.

The data was collected in three phases and was based on qualitative data collection and analysis methods. Current state analysis was done using the process descriptions company had about the current operating model and stakeholder interviews. The researcher's long participation and experience of the organizations current model was also exploited in the analysis. The results verified that the initial business challenge existed and analysis found weaknesses from the decision making, strategy & goals setting, communication & documentation and resourcing.

The next step was to find best practices to handle initiatives efficiently in product and service development. During the phase many different frameworks and expert written books were reviewed. Best ones described multiple tiers of functions or roles to separate the responsibilities and the level of time span they were to oversee. The result was

a conceptualized framework defining practices that needs to be taken in to account to handle initiatives, strategy & goals and roles & responsibilities & organization.

The initial proposal was formed in the collaboration of the project team during recurring workshops and meetings. Weaknesses found during current state analysis and the best practices defined with the conceptual framework was used to first discuss around the possible proposal and number of Visio drawings were created to finally crystalize the last initial proposal and its accompanied textual documentation (Appendix 2). This was then presented to the stakeholders for evaluation.

The feedback that was received from the stakeholders and the last comments from the project team were then utilized to improve the outcome to form the final proposal. The stakeholders were satisfied with the proposal and with little changes it came to be the proposal for the case organizations target operating model which would be presented also to the EMEIA organization colleagues. According to one stakeholder, besides producing the thesis proposal, the whole project was really useful and improved as well as introduced new processes and practices to help in reaching the team goals.

7.2 Recommendations Concerning Practical Next Step

During research work and writing of the thesis paper it has come more and more evident that people in the researcher's unit are not anymore working in country or Nordic level organization. As the unit has become EMEIA wide the planning of next steps should include stakeholders from the overall bigger business unit. This was also the stakeholders' view and suggestion to present thesis output as a target operating model for the UK colleagues to work towards a common understanding of organizations EMEIA wide operation. The UK colleagues in the Offering level have been creating their own model from the offering portfolio management perspective where this thesis final proposed operating model should be attached to and verified that there are no overlapping areas, roles and responsibilities.

If found necessary it could be practical to select one of the existing and widely known scalable frameworks like SAFe firmly as the basis for the development organizations next target model. That would support the bigger organization ready from the start and can be adapted to include all the other concepts presented in the thesis proposal. As

one of the stakeholders said, “This thesis proposal is a good starting point for coming discussions at EMEIA level”.

While the deployment and development team functions were left out for a lesser focus in the operating model as they were not in the scope of this thesis, it would be a good idea to study the possibility to portray them the same way as offering, service and product portfolios. There might be benefits to define the same decision making and initiative handling practices to these functions when the organization grows bigger.

7.3 Evaluation of thesis project

The validity and reliability of the study can be evaluated by going through the credibility, transferability, dependability and conformability which are the four criteria of trustworthiness of qualitative research presented by Shenton (2004). The evaluation of credibility is a way to ensure the internal validity of the thesis project. The following table “Credibility of Project” lists measures (Shenton, 2014) that researcher has evaluated to prove that the study has followed these qualities.

Table 9 Credibility of the Project

Measures of credibility	**Applicability in this research**
Adoption of appropriate, well recognized research methods	The research was based on qualitative data collection and analysis using academic and professional literature. Semi-structured interviews were used to gather data from the informants.
Development of early familiarity with culture of participating organizations	The researcher and the interviewees were all employed by the case organization. All having long career in the same case company they were well familiar with the organizational culture.
Random sampling of individuals serving as informants	Not applied. The informants were carefully selected to ensure they represent the best knowledge on the area of study in the case organization.
Triangulation via use of different methods, different types of informants and different sites	Interviews and discussion were conducted by either face to face or Skype and held as private or as a group discussions. Informants were all from the same single site on the case organization but represented different roles.
Tactics to help ensure honesty in informants	Only willing informants took part in the interviews. The semi-structured interviews were held either face to face or by Skype and any unclear answers could be discussed at once to get reliable data and honest answers.

Iterative questioning in data collection dialogues	The semi-structured interviews were conducted in an iterative manner and interviewees were given possibility to freely return back to previous topics to get more qualitative data.
Negative case analysis	Not applied.
Debriefing sessions between researcher and superiors	Researcher attended group seminars with fellow students and supervisors as well as had discussions in face-to-face sessions or by email with the thesis supervisor.
Peer scrutiny of project	The thesis phases and methods were discussed with colleagues as well as presented the status to the sponsor at work. The thesis was also reviewed by the case company representatives.
Use of "reflective commentary"	Not applied.
Description of background, qualifications and experience of the researcher	Not applied.
Member checks of data collected and interpretations/theories formed	The analysis results and literature used to form the conceptual framework as well as the conceptual framework itself was presented to the informants for comments and feedback. Informants were also participating in the creation of thesis proposal.
Thick description[3] of phenomenon under scrutiny	Included in the chapters 1.1 "Case Company and Business Context", 1.2 "Business Challenge, Objective and Outcome" and the chapter 4 "Best Practices to handle initiatives in Product and Service Development".
Examination of previous research to frame findings	The existing findings and models were reviewed in the chapter 4 "Best Practices to handle initiatives in Product and Service Development".

By evaluating the second criteria, transferability, the researcher goes to show to the reader what are the locality and boundaries of the study when considering using the results on some other context. The target of research is to be as transferable as possible but the scope narrows it to a certain context and the reader can then estimate how suitable this study and its results are for generalization. The table "Transferability of Project" shows how applicable these measures (Shenton, 2014) are for this research.

Table 10 Transferability of the Project

Measures of transferability	Applicability in this research
The number of organizations taking part in the study and where they are based	Study was conducted with within one organization which was located in Finland.
Any restrictions in the type of people who contributed data	All the persons contributing the data were working in the case organization.

The number of participants involved in the fieldwork	5 informants in current state analysis interviews 3 participating in the initial proposal phase 5 participating in the initial operating model proposal review discussion
The data collection methods that were employed	Multiple different collection methods were utilized from semi-structured interviews to workshop discussions and written feedback requests.
The number and length of the data collection sessions	5 interviews, from 45 to 60 minutes each 4 proposal creation discussions, from 1 to 4 hours each 1 initial proposal review discussion, 30 minutes
The time period over which the data was collected	November-December 2016 (current state analysis) February-March 2017 (workshops to build initial proposal) March 2017 (initial proposal review)

The following three measures (Shenton, 2014) in the table "Dependability of Project" were evaluated to address the reliability of the study. The results should be the same when the study is repeated using the same methods, participants and in the same context.

Table 11 Dependability of the Project

Measures of dependability	Applicability in this research
The research design and its implementation, describing what was planned and executed on a strategic level	Description can be found in the chapter 2.1 "Research Design".
The operational detail of data gathering, addressing the minutiae of what was done in the field	The data gathering was done by the practices described in the chapter 2.2 "Data Collection Approach". These practices were followed and are described in chapters 3 "Analysis of the Case Company Current Product and Service Development Practices", 5 "Building an operating model to facilitate efficient product and service development" and 6 "Feedback on the proposed operating model".
Reflective appraisal of the project, evaluating the effectiveness of the process of inquiry undertaken.	Addressed partially in the chapters 3 "Analysis of the Case Company Current Product and Service Development Practices" and 7 "Discussion and Conclusions".

For the study to fulfil the last criteria, confirmability (Shenton, 2014), the findings of the study should be based more on to the informants' responses and feedbacks than the researcher's views or assumptions. The measures of confirmability are listed in the following table with their applicability to this research project.

Table 12 Confirmability of the Project

Measure of confirmability	Applicability in this research
Triangulation to reduce the effect of investigator bias	Analysis interviews, proposal building workshops and feedback for initial proposal were used to reduce the effect of researcher bias.
Admission of researcher's beliefs and assumptions	Discussed in chapters 3 "Analysis of the Case Company Current Product and Service Development Practices" and 7 "Discussion and Conclusions".
Recognition of shortcomings in study's methods and their potential effects	Discussed in chapters 3 "Analysis of the Case Company Current Product and Service Development Practices" and 7 "Discussion and Conclusions".
In-depth methodological description to allow integrity of research results to be scrutinized	Descriptions in the chapters 2.1 "Research Design", 2.2 "Data Collection Approach", 3 "Analysis of the Case Company Current Product and Service Development Practices" and 4 "Best Practices to handle initiatives in Product and Service Development".
Use of diagrams to demonstrate "audit trail"	The design of research work is shown in picture in the chapter 2.1 "Research Design" and the key outputs as conceptual framework and proposal for operating model are illustrated in the chapters of 4 "Best Practices to handle initiatives in Product and Service Development", 5 "Building an operating model to facilitate efficient product and service development" and 6 "Feedback on the proposed operating model".

As the researcher is part of the case organization and participates actively in the process that was studied, it might have had some influence to the questions made and to the first set of categories defined for the analysed data. Objectivity is hard to obtain when observations and analysis are made by person working in the same case organization and having the inside knowledge of the challenge studied. While the analysis might have been influenced by a deductive approach, at the end it was done as inductive by first looking at the results of data analysis, gone through generalization to conceptual framework and with found best practices to form the proposal.

As major part of the measures presented by Shenton (2004) were applicable to this research project and fulfilled, the assumption is that the thesis has obtained the trustworthiness at the needed level.

References

Case Company (2017) *System Engineering Guides and their Adaptation.* Available at: http:/[redacted](Accessed: 15 January 2017).

Chan Kim, W. and Mauborgne, R. (2002) 'Charting Your Company's Future', *Harvard Business Review,* June.

Coghlan, D. and Brannick, T. (2014) *Doing Action Research in Your Own Organization*. London: Sage.

Courtney, H., Lovallo, D. and Clarke, C. (2013) 'Deciding How to Decide', *Harvard Business Review*, November.

Hedman, J. and Kalling, T. (2003) 'The business model concept: theoretical underpinnings and empirical illustrations', *European Journal of Information Systems*, 12, pp. 49–59.

Wakaru (2012) *ITIL course material - ITIL Foundation 2011 Edition*. Tampere: Wakaru Partners.

IT Standard for Business (2017) *Model for Business Driven IT Management*. Available at: https://www.itforbusiness.org/ (Accessed: 6 February 2017).

Johnson, G., Whittington, R., Scholes, K., Angwin, D. and Regnér, P. (2015) *Fundamentals of Strategy*. 3rd edn. Harlow: Pearson Education.

Miles, M., Huberman, A. and Saldaña, J. (2014) *Qualitative Data Analysis.* 3rd edn. London: SAGE.

Nir, M. (2013) *Building Highly Effective Teams*. 3rd edn. CreateSpace Independent Publishing Platform.

Pichler, R. (2016) *Strategize - Product Strategy and Product Roadmap Practices*. Pichler Consulting.

Reason, P. and Bradbury, H. (2008) *Action Research Participative Inquiry and Practice*. London: Sage.

Rogers, P. and Blenko, M. (2006) 'Who Has the D?: How Clear Decision Roles Enhance Organizational Performance', *Harvard Business Review*, January.

Rohweder, T. (2016) *Strategy, Management and Leadership* [Lectures to MEng Business Informatics program 2016], Metropolia University of Applied Sciences, Spring.

Scaled Agile (2017) *Scaled Agile Framework*. Available at: http://www.scaledagileframework.com/ (Accessed: 1 February 2017).

Shenton, A.K. (2004) 'Strategies for ensuring trustworthiness in qualitative research projects', *Education for Information*, 22(2), pp. 63-75.

Steinhardt, G. (2010) *The Product Manager's Toolkit,* Berlin and Heidelberg: Springer-Verlag.

Van der Vegt, G. and Janssen, O. (2002) 'Joint Impact of Interdependence and Group Diversity on Innovation', *Journal of Management,* 29, pp. 729-751

Example of semi-structured and open ended CSA questions

1. Let's start by having you describe what your role is and what you do?
   - Do you have any other role(s) that might relate to the process?

2. How would you describe the process happens from your point of view?
   - In what parts of the process you are involved?

3. Tell a little bit more about your tasks related to the process?
   - How about any other tasks in different roles?

4. How is the process documented?
   - Where can you get information about it?

5. How is the process communicated in team/organization?

6. List 3 best things in the process that works

7. List 3 most challenging/problematic things/areas in the process that would need improvement (or are urgently needing change)

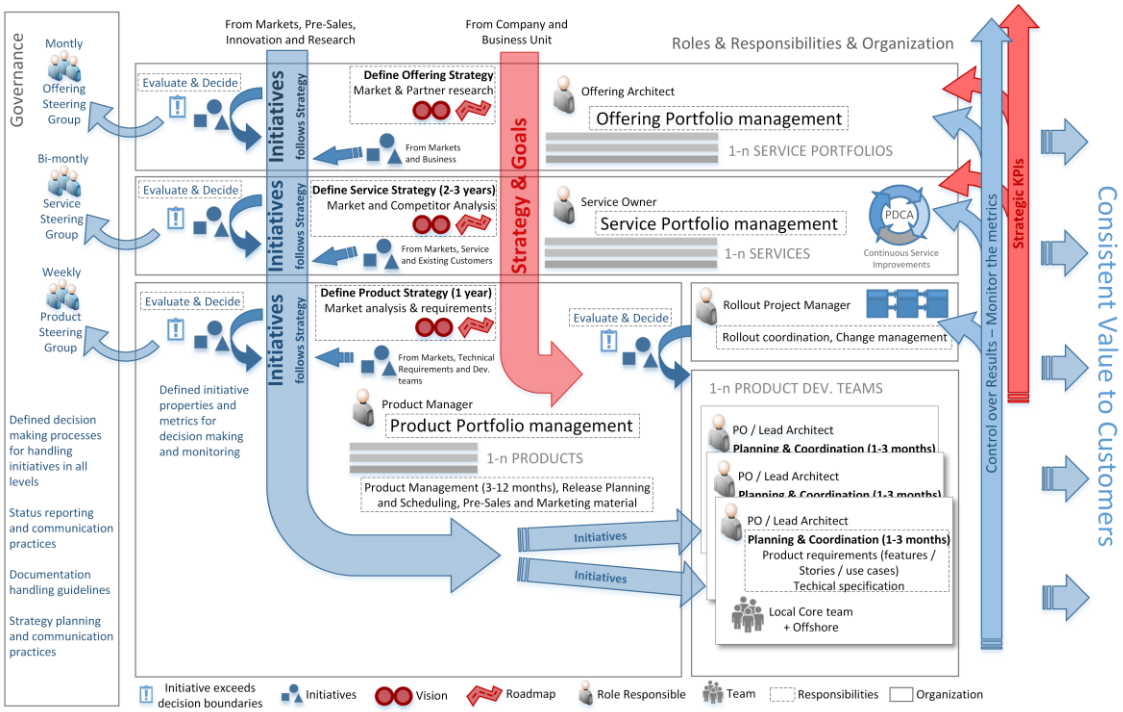
8. How do you see the current process focuses on the customers (internal/external)?
   - Where is the customer in the process?
   - How the customer is seen by your role and tasks?

9. What drives the current development process?
   - Is it for example technology driven, sales driven or market driven?

Final Proposal for Operating Model with Accompanied Textual Descriptions

Proposal for Operating Model

The following picture shows the proposal for an operating model to efficiently handle initiatives in service and product development.



Roles, responsibilities and processes

The organization structure, roles, responsibilities, decision rights and accountabilities and culture needed to govern, motivate and support the people

Offering Management

- **Offering Architect**
  - Responsible of
    - 1-n Service Portfolios
    - Offering Strategy
    - Strategy Communication
    - Partner Research & Discussions

- Market and competitor analysis
- Evaluate Initiatives/Opportunities (&decide), facilitate decision making Go / No-go / Steering Group
    - Keeps Offering portfolio initiative backlog updated and prioritized

- Takes part in
    - Pre Sales

Service Management

- **Service Owner**
    - Responsible of
        - 1-n Services
        - Strategic planning (2-3 years)
            - Powerpoint (vision & goals & themes)
            - Strategy Communication
        - Market and competitor analysis
        - Service and Support Model
        - Sales and marketing material
            - Service descriptions, pre- and sales materials, sales support material including training, pricing model
        - Evaluate Initiatives/Opportunities (&decide), facilitate decision making Go / No-go / Steering Group
            - Keeps Service portfolio initiative backlog updated and prioritized
    - Takes part in
        - Roadmap planning (1 year)
        - Pre Sales

Product Management

- **Product Manager**
    - **Responsible of**
        - Roadmap and strategic planning (1 year)
            - Implements themes driven from Vision and Goals
            - Market and customer requirements (list/doc, Jira or equal)
            - Analysis of Market and Customer requirements, prioritization and weighting

- Prioritized requirements
- Strategy Communication

- Product Management (1-n products included in the service)
- Release planning and scheduling (backlog long term)
  - Usually follows the Normal (quarterly) or Standard (when needed) process
- Evaluate initiatives (&decide), facilitate decision making for Go / No-go / Steering Group
  - Keeps Product portfolio initiative backlog updated and prioritized

- **Takes part in**
  - Strategic planning 2-3 years
  - Market and competitor analysis
  - Pre Sales and Sales support
  - Sales and marketing material
  - Works together with other organization services to build competitive overall portfolio (cross-functional cooperation towards common goal)

Product Development (team)

- **Product Owner (Lead Architect / team lead in their product)**
  - **Responsible of**
    - Product Backlog (short term)
    - Architecture (if also Lead Architect)
    - Team Lead (also Off-Shore)
    - Iteration planning (daily/weekly)
    - Specification of product requirements (feature, story, use case) based on given market requirements (initiatives)
  - **Takes part in**
    - Specification of technical requirements (with lead engineer and/or development team)
    - Co-operation with other teams
    - Sales Support, Analysis, prioritization and weighting of market and customer requirements

Rollouts

- **Rollout Project Manager**
  - **Responsible of**
    - Rollout project coordination
    - Customer Interactions
    - Project Resourcing / Allocation
    - Change (Scope) Management
      - Ensure correct processes are used and steering group consulted
      - Prepare new initiatives formed during rollouts and report them to Product Management
  - **Takes part in**
    - Co-operation with other teams
    - Specification of technical requirements (in the scope of rollout project)

Steering Groups

- **Offering Steering Group**
  - **Consists of**
    - Head of Offering
    - Business stakeholders (P&L)
    - Offering Architect as secretary, requesting decisions for initiative in hand
  - **Operates**
    - Monthly meetings and when needed

- **Service Steering Group**
  - **Consists of**
    - Offering Architect
    - Business stakeholders (P&L)
    - Service Owner as secretary, requesting decisions for initiative in hand
  - **Operates**
    - Bi-Monthly meetings and when needed

- **Product Steering Group**
  - **Consists of**

- Service Owner
- Business stakeholders (P&L)
- Product Manager as secretary, requesting decisions for initiative in hand

- **Operates**
  - Weekly meetings and/or when needed

Handling Initiatives

Initiatives can be presented to the portfolio management functions in every levels and from product development, deployment, operations and sales teams. If the initiative criteria (budget, risk, in line with strategy, fit for shared function, etc) does not require upper level authority then the decision can be made at corresponding portfolio level.

- Prioritization of initiatives
  - This is the responsibility of the key managerial role in the corresponding portfolio (offering, service, product) level the initiatives are presented
  - Priority is decided by keeping an portfolio (and dev. Team) level related backlog updated which is based on the Kanban model (SAFe 4.0)
  - Any changes to the already decided priority which has been taken into development needs to be accepted by the portfolio level Steering group.
    - Individual proposing the change needs to prepare a grounded analysis of the effect (cost, risk, schedule, etc) to previously accepted initiatives (as their schedule might change, customer relations, etc).

- Different aspects to consider when thinking of financing the development initiatives requested by Customer
  - When Customer initiative not totally in the scope of Vision & Goals but seen valuable and something other customers would use
  - When done as co-creation development with the Customer and in line with Vision & Goals
  - Changes come along the service roadmap but without promised schedule when Customer is not in hurry with the requirement
  - Schedule for initiative
    - Fully or partly paid might be available sooner (within next iterations)
    - Along service roadmap does not guarantee any schedule

Strategy and Goals

Strategy and Goals follow the set strategy of company and business unit. Every portfolio level has its own view to the strategy, goals and roadmap which is then used in the levels beneath it.

Time frame shortens when coming from higher levels to the Product Portfolio management level it defining strategy in one year lifespan. All the information is usable throughout the functions. Key roles (Portfolio management) has the responsibility to communicate and execute the defined strategy, goals and roadmap and keep the transparency as a main target so the business level goals are known in every level. This is really important so that all the decisions made are based on the right information and will embower people to work on their own when they have the authority to do so.

Metrics and Control over results

Every initiative or strategy goal has to have proper measurements that can be follow by every person participating in the process. These have to be as clear as possible so that everyone understands how their efforts can help to achieve them. The responsibility to set and communicate these targets belongs to the key portfolio management roles in every levels. They have to set the initiative metrics and strategic goals and also follow how they perform. Without follow-up there is no change to know whether the plans are working.

Resourcing

- Prerequisites
    - Strategy clear
    - Organization, roles and responsibilities defined
    - Initiatives follow strategy themes
    - Tools and procedures defined
- Workload and need known, or possible to estimate
    - Permanent resources
        - Continues need for resources to handle key/strategic roles of Service and Product development and to do standard changes and rollouts
    - Bigger epics and projects are resourced case by case
    - core personnel should be local, considered also when adding more people to the team
    - development supporting people can be offshore