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Innovation Management Framework for Service Company

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Digitalization is changing the industries rapidly and the demand for enhanced capabilities to innovation is increasing as well as the speed of change. The customer expectations are evolving fast and their expectations for services are not anymore only arising from a company's own industry but also across the industries. The objective of this thesis was to provide a proposal for innovation management framework to support the case company to step up its innovation capabilities. The case company is now seeking for methods to enhance its innovative capabilities especially in terms of getting the best ideas productized fast.

The research was carried out using qualitative methodology. A current state analysis was performed by interviewing the key innovation, development and people development experts within the company. The interviews pointed out the challenges in the case company's innovative capabilities in terms of innovative culture and innovations being processed as projects with requirement for hard business cases from the very beginning. In addition to the financial controls, hierarchical decision-making structures and low empowerment in teams were identified to create inefficiency to innovation. The interviews suggested that the case company's strengths lie in the strong development focus across the company, cross-organizational capabilities and in employees having plenty of ideas coming up. The conceptual framework was then built on top of these findings to provide insight to potential toolset for enhancing the innovative capabilities.

The proposal was built through co-creation methods using the knowledge and vision from the small working group. The author recommends the case company to implement the proposed innovation management framework which defines innovation as a separate process and a way of working in this way providing fit-for-purpose methods to drive innovation more efficiently. The proposed framework clarifies the roles and responsibilities and puts the innovation process in front of the existing development processes which in turn enhances the clarity over the development process landscape and process integration.

The validation of the proposal showed that the proposed model fit the case company well. The main feedback highlighted the importance of the thorough implementation of the model, especially considering the clear communication of the new roles and responsibilities as well as the footwork for selling the model across the business units by rightly formatted value propositions.

Keywords	Innovation, Framework, Process, Mindset,

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1   Introduction

1.1   Overview

This thesis studies a case company's innovation management capabilities and provides proposal for an innovation management framework that would enable the case company to step-up their innovation works.

1.2   Case Company and Business Challenge

The case company has long history in the industry where they operate and provide services, mostly in B2C environment. The industry has much regulation in place which is set globally or locally by governmental authorities and also some ecosystem vendors who have strong control over how the services can be provided and priced. As most of the service industries, the case company's industry has been recently heavily influenced by the digitalization of the services and the transformation that pushes the boundaries of the traditional industries. In the past the case company has been a clear forerunner in some areas and introducing radically new services within its industry. It has pioneering the use of new technologies with a success and has been awarded on these efforts within the industry.

These innovation at the time where made possible by the close and well-working relationships with some the key ecosystem vendors of the industry. Their heavy involvement also meant that the profits of those innovations were shared with the vendors and the shifts in vendor strategy made the case company to take different approach in development activities with these major ecosystem vendors few years ago. The case company decided to move toward insourcing in many of the customer-facing services as it was seen that these areas were the ones where company can differentiate from competition. This, however, wouldn't been possible if company's service development was controlled by a large-scale ecosystem vendor who's developing similar services to the direct competitors.

Therefore, recently the case company has put lot of efforts and done large scale recruitments to enhance its capabilities in the development of its services, both in physical and digital space. Lot of development is ongoing in the company and the amount of parallel development activities is taking much of the resources that company has available. The

common way of turning ideas into innovations and to identify the best ways to implement them is currently missing and the case company is struggling with getting the visibility over the potential innovations. As company has well-functioning processes for many other activities, the building of an innovation management framework is seen as a good way to enhance the innovative capabilities of the company.

1.3   Objectives and Scope

This research provides a proposal for innovation management framework for the case company. The specific content and extent of the framework will be clarified and defined based of the research. The expectation from case company is that the framework should include innovation process, organization and governance on adequate level providing usable results for implementation of innovation management practices. Therefore, the proposal should also cover suggestion for implementation strategy, but the detailed implementation plan is left out of scope. The research should also provide input for defining the requirements for digital innovation platform which is seen as important part of innovation management at the case company (Figure 1)

In Scope	Out of Scope
• Design an innovation management process • Definition of implementation strategy • Provide input for requirements regarding digital innovation platform	• Detailed implementation plan

Figure 1: Research In Scope – Out of Scope

1.4   Thesis outline

This thesis is structured in the following way: firstly, the case company's current state on innovation management is looked into by performing a current state analysis. The findings are analyzed and grouped to high-level themes. Secondly the literature research is performed to build a conceptual framework that would provide guidance and best practices to be utilized in the proposal. Thirdly, the initial proposal for innovation management framework is built to meet case company's objectives and based on data gathered in the

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previous steps of this research. Lastly, the initial proposal will be presented in the relevant leadership team to get final feedback and the final evaluation of the proposal.

2   Research Design

This chapter introduces the research design and methods for this thesis, and how the data collection and analysis is performed.

Objectives
- Define innovation management framework for case company

Current State Analysis of case company's innovation management capabilities

Summary of case company's current state in innovation management

Existing knowledge of innovation management frameworks and best practices

- Definition of innovation
- Innovation types
- Innovation strategy & process
- Culture and mindset

Conceptual Framework

Co-creation of innovation management framework for case company
- Building the proposal based on conceptual framework and the data collected in CSA

Initial proposal for innovation management framework

Feedback on proposed innovation management framework
- Further development topics listed based on received feedback

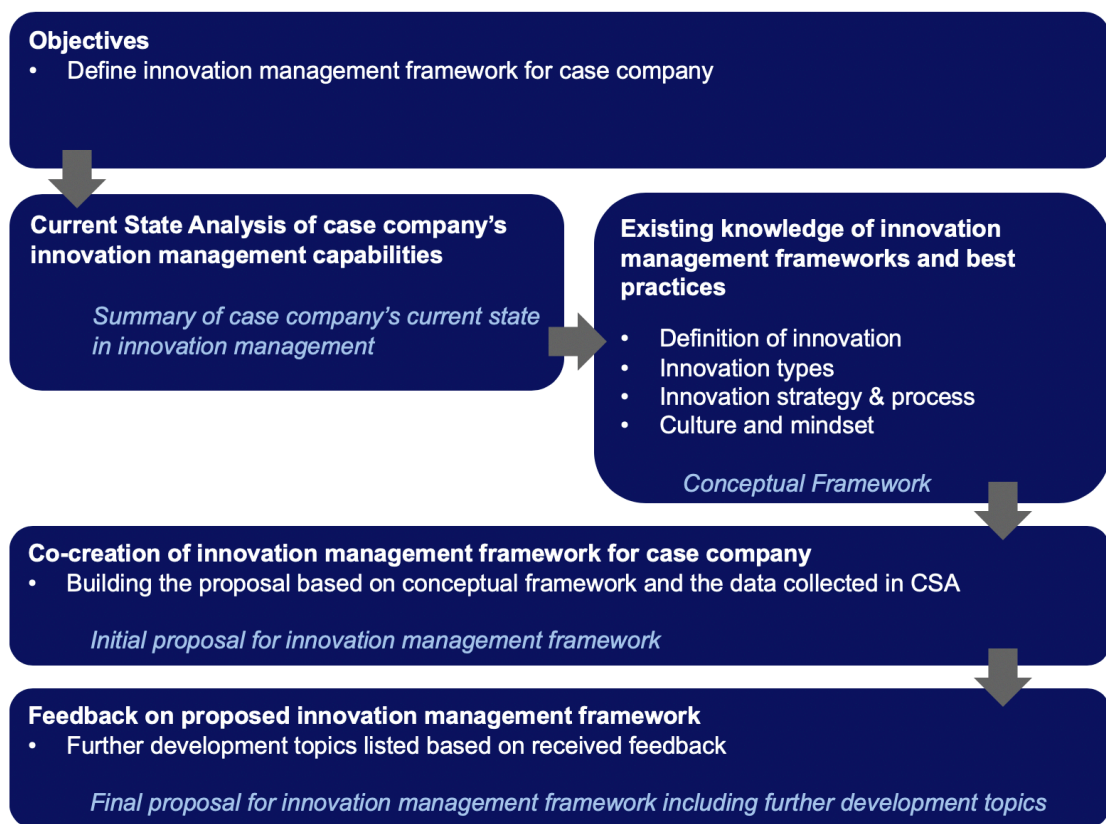*Final proposal for innovation management framework including further development topics*

Figure 2: Research design

2.1   Research design and methods

The research will be performed in four phases (Figure 2). First phase is focusing on establishing the understanding of company's current situation regarding innovation work. The method used for this phase is current state analysis which will provide insight on

company's strengths and weaknesses. The current state analysis will be performed as individual interviews of subject matter experts and the input from these will be used to build the overview on the company's current state.

The second phase of the research is building the conceptual framework by literature review and this will be done in parallel with the current state analysis. The objective definition and guidance from case company is taken into consideration on the selection of the literature sources.

In the third phase, a proposal for solution will be built with aim to complete the requirements of the company and addressing the issues found in CSA by adopting the best practices and learnings from the studied literature.

The fourth and final phase will be the validation of the proposal which will be done as workshop with all interviewees. The proposal will first be presented to the audience after which the different parts of the solution will be discussed, and feedback will be gathered as input for further development of the proposal and for the actual implementation.

2.2   Data collection and analysis

Data schema (Table 1) summarizes and describes the data collection phases, from their focus to expected outcome. The data will be collected and analyzed in three phases. The current state analysis interviews will be held face-to-face with the case company's experts on the innovative ways of working and the recording of these will be done as written interview notes structured to interview script according the model explained in the next chapter. The data captured in the interviews will be summarized and the key findings will provide inputs to the following research phases as described in the Figure 2.

Moving on to building the initial proposal, more data will be collected during co-creation workshops which cover topics of innovation strategy, organization, key roles, process, governance and digital platform. Workshop participants vary according to the focus of individual workshop, consisting generally of case company's innovation and development management experts. Few workshops focusing on the digital innovation platform are also having some external participants from potential innovation tool providers. The data collected from these workshops will be recorded in form of meeting notes, whiteboard drawings and sketches, and as commented Powerpoint presentations. The data

collected in the workshops will be analyzed within the co-creation core team, and the relevant parts will be taken into consideration in the initial proposal.

Once the initial proposal is ready, it will be presented to case company's Transformation leadership team for review and comments which will be recorded as meeting notes and provide input for final adjustments of the innovation framework proposal.

	FOCUS	DATA TYPE	SOURCE	RECORD	OUTCOME
Current State Analysis	• Strengths and weaknesses of case company in terms of innovations	• Interviews	• Digital development leads (6) • HR leaders (2)	• 1 hour interviews during December 2018. • Interview notes	• Background analysis • Strengths • Weaknesses
Building initial proposal	• Innovation Strategy • Organization • Key Roles • Process • Governance • Digital Platform	• Workshops • Own pre-existing knowledge	• Workshop participants	• Powerpoint presentations • Meeting notes • Drawings/Sketches	• Initial proposal for innovation management framework
Validation of initial proposal	• Validation of initial proposal	• Presentation to Transformation leadership team or CDO	• Feedback received from leadership team	• Meeting notes	• Final proposal for innovation management framework

Table 1: Data Schema

3 Current State Analysis

3.1 Overview of Current State Analysis

Current state analysis was performed by interviewing the selected digital development leads and strategic HR leaders of case company. (Table 2) All of the interviewees have years of experience in working in different type of development roles in various companies.

CSA Data Sources	Date	Recording
Digital Transformation Lead, Commercial area	2.11.2018	Interview notes
Digital Transformation Lead, Group Services	2.11.2018	Interview notes
Digital Transformation Lead, Customer Experience	2.11.2018	Interview notes
Digital Transformation Lead, Logistics	6.11.2018	Interview notes
Digital Transformation Lead, Operations	6.11.2018	Interview notes
Head of People Development	9.11.2018	Interview notes
Vice President HR, Transformation	9.11.2018	Interview notes

Table 2: CSA Data Sources

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A simple innovation process as described by Tidd and Bessant (2009, p.43) (Figure 3) was used as framework for interview questions and discussion. For each interview a timeslot of 1,5 hours was scheduled to ensure that there was enough time to cover all discussion topics. The target of the interviews was to identify the main bottlenecks and barriers for successful innovation management and also the case company's strengths and qualities that support the innovation work. The phases of the simple innovation process were used to facilitate the discussion and to map the findings to relevant phases.

Figure 3: Simple Innovation Process

In the further analysis of interview findings, the main themes of findings were identified, and related findings were grouped under these themes. The themes that were identified are:

1. Culture, organization and mindset
2. Process
3. Leadership & Governance

The following chapters introduce the findings per theme.

3.1.1 CSA findings regarding culture, organization and mindset

The industry where the case company operates in is very safety, security and performance focused and these general factors set the underlaying mindset in the company. This implicates the culture in terms of how the company can make major changes in its key processes. Moreover, many key parts of its operations are controlled by legislation. These environmental factors set limitations for innovation possibilities, but in culture these factors are sometimes causing overcautious behavior and need for full assurance in every minor change. Often innovative changes are seen as threats to these factors and therefore require additional change management and communications activities before experimenting with something new. In short, the case company tends to generalize the safety and security factors to even smaller changes on the mindset level. This limits

the space for experimentation when comparing what would really be prohibited or limited by the actual legislation.

The company values hardcore expertise highly which may also be explained by the nature of its operations. Decisions need to be well-prepared and fact-based. Work is seen to provide results through visible products, presentations, documentation or similar. On high level, the performance is measured by hard numbers and facts, the creative results not being recognized as real added value. Culture and mindset don't therefore encourage the open innovation work unless done as separately defined project or assignment which has been pre-approved by using the hard facts and numbers.

The case company has a strong focus on development across the organization and majority of its employees have long experience at the company and in the industry. They have lots of ideas and are eager to contribute to company's development. The employee commitment is high. Besides having a strong development focus in the culture, the development is often performed in a cross-organizational setting which enhances the possibilities for learning and enables further collaboration between business units.

The long experience of the employees provides a platform to validate ideas or solutions rather quickly by relying to the proven knowledge on the industry. This however may also cause some blind spots and narrow sighted conclusions if the evaluation is relying too much on the historical facts and experience. When considering the effect at selecting the right ideas a combination of long experience and "fresh eyes" could provide best end results.

The organization is well connected with other companies in the industry and the industry itself has many collaboration forums where the future outlooks are shared quite openly, and benchmarking discussions may take place. The leadership teams of business units are scanning the changes in the industry and trends actively, and participating industry forums. Well-connected organization provides good standpoint for bringing in new ideas and to react to new trends early. The case company has a strong brand image which attract new partners and they are active in approaching company with different type of development and innovation initiatives. The company's open culture toward partners provides possibilities to onboard new partners quite quickly and to start working together.

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At some parts of the organization, the innovation work is seen or felt as something that only certain other parts of organization do or are allowed to do. When talking about innovation it's often considered as new commercial product development only, which causes people with e.g. process development ideas not to see themselves as innovators. They might feel that they are "only" developing things. The company might have a branding issue here with term "Innovation". Strong re-branding might be useful to support the overall innovation management and awareness.

3.1.2 CSA findings regarding the process

The interviews clearly pointed out that currently there is no process established to manage innovations in a systematic way. There has been however set of one-time challenges or programs which have worked with innovations using some well-known methods such as design thinking or lean start-up. These have been single occurrences from which company has gained learnings about how to run the innovation process, but they haven't led to establishing innovation management as continuous process or systematic way of working.

As learnings these programs have provided company a vision what would be the right way to implement innovation process but as company's resources have been recently tied up to traditional development activities there is no extra capacity that could have been allocated to take over the establishment of the innovation management framework. Due to the situation much of the innovations and ideas are now born and handled within the projects and business teams internally without better overview of the whole innovation landscape. When small innovations are pushed through a project process which is built for large, well-defined projects and in here the innovations get stuck with the requirements that are not relevant for them. Generally, people involved with development works know the project and portfolio management processes well and are well-oriented to follow the process in their work. This provides good grounds for implementing process for innovations as well.

The innovation that are born in the teams or projects are typically minor and related to continuous improvement. Due to the hectic working environment and lack of the framework and process, there has been only few radical innovations. The interviewees sug-

gested that there should be more guidance from company strategy to push the innovations to more radical themes and that one of the hindering factors may be the lack of definition of radical innovation or the lack definition of innovation as general.

About 5 years ago the company was running a process for gathering ideas and had also implemented a digital platform to facilitate that. At the time process was somewhat set up but wasn't functioning properly and most of the ideas ended up being declined or forgotten in the process. There was no transparency over idea management. The environmental factors related to company's financial performance and continuous savings programs made the timing for starting up innovation work very challenging back then.

The general development process landscape is established in the company and it consist of three development pipelines: projects, agile development and small business-as-usual enhancements. Project management process is set up according to stage-gate model and is set up in a scalable way so that it's use for different project types can adjusted (Figure 4). In terms of budgeting and resourcing projects seek approval for their budget individually and the approval decisions are made based on priority and the business case at G1 milestone. The key decisions are made in portfolio management steering group, G1 stands for decision to start the project and approval of the project plan and in G4 approval of project go-live from business and technological perspectives. The budget decisions for projects have many levels of governance, and the required approval bodies are defined by the size of the investment that the project is proposing.

Figure 4: Project Management Process

The agile development has is largely done in one unit which has set up a playbook that defines their process and underlying ways of working and practices. (Figure 5). Agile development has fixed budget and resources which set the boundaries for scale of development. In agile development the prioritization has even bigger role than in projects as the resources and budget is fixed. On the other hand, here the business case and feasibility of an epic or feature is evaluated within the team which makes the governance more streamlined than what it is in the projects.
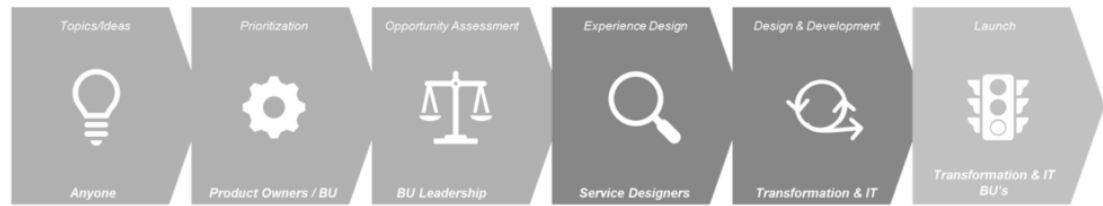
Figure 5: Agile Process

The third way of development, the enhancements are done as business as usual and there's no common process rolled out. (Figure 6) The cross-functional teams including members from business and IT manage their development roadmaps and select which enhancements get the priority. Then the development managers make further specifications for development item and typically order the work from one of the vendors. At the delivery of the development item the functionality is tested and taken into use. The cross-functional team typically manages the enhancements on their own and there's no governance coming outside of the team. Budgeting for enhancements is done as part of yearly budgeting and cross-functional teams then decide how they will use their enhancement budget.
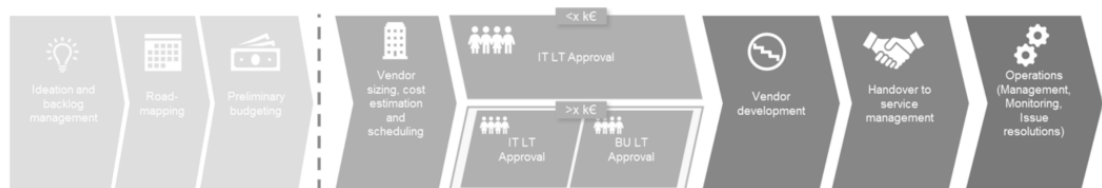

Figure 6: Enhancement Process (preliminary)

According to CSA interviews these development methodologies form strong and solid base for innovation management framework and it was identified that it will be important to ensure the proper linking of the development processes and innovation process. The innovation process should be built in a way that it feed the development processes which would then be used to build the product or service that has originated from innovation pipeline.

3.1.3 CSA findings regarding leadership and governance

By going through years of cost cutting and multiple savings programs the company governance has been formed to provide very strict set of controls through a heavy hierarchical decision-making structure. These controls have been mainly around budgeting

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and use of money, and they have been applied to development activities on very general level, without discretion on the size or complexity of the proposed works. Interviewees identified that the heavy governance is blocking the innovations on some level as whenever an initiative requires money there is a requirement for the standard, very diligent business case calculations to be prepared. In other words, even the small innovation initiatives are evaluated with same detailed approach that is used for high cost, high risk, complex programs. A decision-making structure which would provide empowerment for lower organization levels to decide on small development efforts and innovative works would be beneficial.

The mindset in leadership focuses on managing the operative level items instead of developing them. The difference here might be minor but it's visible in the leadership styles. This is quite natural given the traditional safety, security and performance focus of the company, but in terms of enabling innovation this indicated a need for some extra efforts. In the current setting the company-level innovation happen mostly in connection to yearly strategy discussions when new ideas are gathered and formulated into strategy. But after strategy discussions have been concluded the leadership focus shifts quickly back to managing the ongoing activities, the balance is not serving the innovation work.

The mindset shift that would be beneficial according to interviews would include elements of promoting try-and-fail approach and pointing out that the learning from failures is an important part of developing the organizational capabilities. This doesn't normally exist in company's risk avoiding operative environment. The innovations should have a way to be tested with a light Proof-of-Concept approach, and then only be pushed forward to further productization through development projects. As the interviewees stated in terms of availability of ideas from the organization, there are plenty of them, but it would be important to identify and select the ones that are addressing a real issue or challenge, not just to go and try every promising idea. This should be taken into consideration in the governance, and also in the innovation management process.

In the end, one of the key finding that came up in the interviews was the genuine motivation for innovation management process on management level. It's not completely clear which kind of innovation company should strive for, radical or minor and how much effort could be put into this.

3.2   CSA Summary

Current state analysis provided lot of insight into the problematic factors that might hinder case company's capabilities for innovation, but also many strengths which offer good grounds for developing the innovation ways of working in the company as shown in the Figure 4.

On the culture, organization and mindset there are powerful strengths that could be utilized to overcome the weaknesses of that area. The combination of overcautious behavior and employees having long industry experience is causing the effect that some new ideas might not get out to be discussed as the person could himself already have done the analysis of its feasibility and found it non-fit for implementation. But even if this analysis would be the right one in the end, cutting into conclusion without exposing the idea to colleagues is not supporting the creation on innovative culture and mindset. Overcautious behavior, or very risk avoiding approach is also present on decision-making level in the company which leads to requirement of almost all efforts being measurable as business value.

The finding that people often experience that all efforts should provide some measurable or productized results is also causing behavior that doesn't support the innovative culture and mindset. If people do not bring up the ideas that they suspect being non-beneficial, in the company perspective two important elements are missing: company is not collecting all the ideas and missing the opportunity of combining several good ideas into one great idea, and secondly the conclusions are drawn at too early stage and may represent the views, understanding and opinions of a single employee only.

Seeing innovation belonging to some specific teams only is hindering company's capabilities through people not providing their ideas as they might think that they are doing the wrong tasks if taking over tasks from someone else's area. On the other hand, the feeling of not being part of the "innovation team" might lead withholding the ideas due to the assumption that all the benefits and recognition of this idea would fall to wrong people. There are deeper aspects in the company culture and organization that support the assumption, and the idea of shared success would be important to incorporate into innovative culture and thinking.

As the innovation process doesn't in the company and clear ownership for that is also missing the company cannot run the innovation works in unified and controlled way. This also means that the term innovation means different things in different parts of organization and the ways of working here are different per unit or team. As there hasn't been dedicated process for innovation some teams have utilized elements or full process and toolset of project management in these works. The project management process is providing close to similar structural elements, but it includes unnecessary details from innovation perspective and on the other hand misses to give support and guidance on innovation and ideation.

The minor innovations are representing the majority of all innovation and these are often seen as small enhancements to processes or systems, and this systematic misperception also makes them remain minor as company usually goes quite quickly from identification of an idea into implementation, failing to use any incubation or validation methods in the process. The lack of radical innovations is also largely explained by the missing innovation process and ways of working, but also overcautious behavior is driving that.

For the part of leadership and governance, the current structures are limiting the innovation. Company hasn't, due to not having the process in place nor the ownership defined, set a flexible way for innovation-related initiatives and their costs to be approved. Therefore, innovations need to go through the same approval process as any well-defined project would go and this blocks the experimental work effectively. The innovations don't typically have strong financial analysis or business case made in the first steps of the process, as the whole idea is to explore, incubate and grow the idea into a successful product or service. But as this often means some external spending the innovations are struggling in the financial control environment. Besides the complexity of the required financial documentation, also the decision-making power is kept on the hands of top management and any decisions requiring external investment has to go through them. Even though management is quite well available to make these decisions this causes slowness to the governance as the team needs to prepare extensive presentations of the ideas and then get the time slot for the presentation, instead of making the decision in the team and starting the experimentation. This governance also represents the leadership which is not empowering the teams at the moment. The leadership also focuses much on the operational performance management instead of pushing for experimental works and has tendency of micro-management throughout the hierarchy. The innovation

requires clearer direction and sense of urgency from top management level and should be better present in corporate strategy. (Figure 7)

	Strengths & benefits	Hindering factors
Culture, organization and mindset	+ Strong development focus across the company + Employees having long experience and broad knowledge of the industry + High employee commitment to the company + Employees have lots of ideas + Cross-organizational capabilities and well-working relationships with peer companies to share insights	- Overcautious behaviour - All efforts are expected to provide productized results - Innovation is seen as something that belong for selected teams only - Long experience of employees might block them to identify out-of-the-box opportunities
Process	+ One-time innovation challenges have provided insight and learning on the ways of working + Well functioning project & portfolio management process already known by employees + Minor innovation happens natively as business as usual in the teams	- No innovation process existing - Clear ownership for innovation is missing - Project management process used for innovative work is too heavy and slow - Minor or operational improvement ideas are not recognized as innovation - Only few radical innovations have been identified
Leadership and governance	+ Some Proof-of-Concept works already successfully done	- Business case driven, non-scalable decision making structure - Low empowerment for team level, most decisions require leadership team decisions - Financial controls blocking experimental works - Operational performance focus in leadership vs. experimental - Lots of new ideas, but criteria and governance for selecting the best ones is missing - Clear direction and setting the level of urgency needed from management level

Figure 7: Strengths and weaknesses matrix

4   Conceptual Framework

4.1   Overview

The conceptual framework first discusses the definition of innovation and the different types of innovation. The role of innovation strategy and process steps are discussed in the following chapters, and the cultural, mindset and organizational factors, including innovative teams, are looked at also. Last chapter discusses the open innovation and possibilities of co-operation on that with external parties.

4.2   Definition of Innovation

According to Tidd & Bessant it's crucial to understand that innovation means lot more than just coming up with great new ideas. Rather than only having an idea, innovation is something that is invented but more importantly developed further to a point where the original idea will provide value to its target groups. Also, this common misconception or misuse of terminology around innovation might lead the people to focus on wrong things

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when trying to get more innovative. As the idea generation is only one part of the innovation, just creating vast amount of new ideas doesn't necessarily serve to enhancement of innovation in an organization but might lead only in more confusing situation due to growing amount of ideas which are stuck at idea stage and not developing further. Clear definition of innovation is important step to be taken in the early phase when implementing innovation management as by focusing only on some parts the whole process might be set up and managed in wrong way. (Tidd, Bessant, page 16)

Innovation is about noticing the connections, identifying opportunities and then coming up with solutions or offering that enables the company to take advantage of them. Innovation might be about coming up with new markets but enhancing current ones by utilizing a new approach in serving them. (Tidd, Bessant, page 3)

When talking about innovation and establishing the framework it should be made very clear to the organization that innovation may be done in many forms and sizes of which all are beneficial and important for the company. The benefits of innovation might not be tangible, monetizable product or service. Some of the outcomes might end up providing company just learning about the subject which could be seen as failure if looked at by the traditional terms of development.

According to Tidd innovation can be divided into four dimensions where it can take place. Firstly, the innovation can happen around the products or services that the company provides. The second dimension is processes meaning innovating on how the company operates to provide the products and services to customers. Position innovation is the third dimension, these innovations intend to change the context in which the products are introduced. The fourth innovation dimension is paradigm innovation which changes the mental model which frame the company operations. In these dimensions, the innovations can take forms of incremental or radical innovation. (Figure 8)
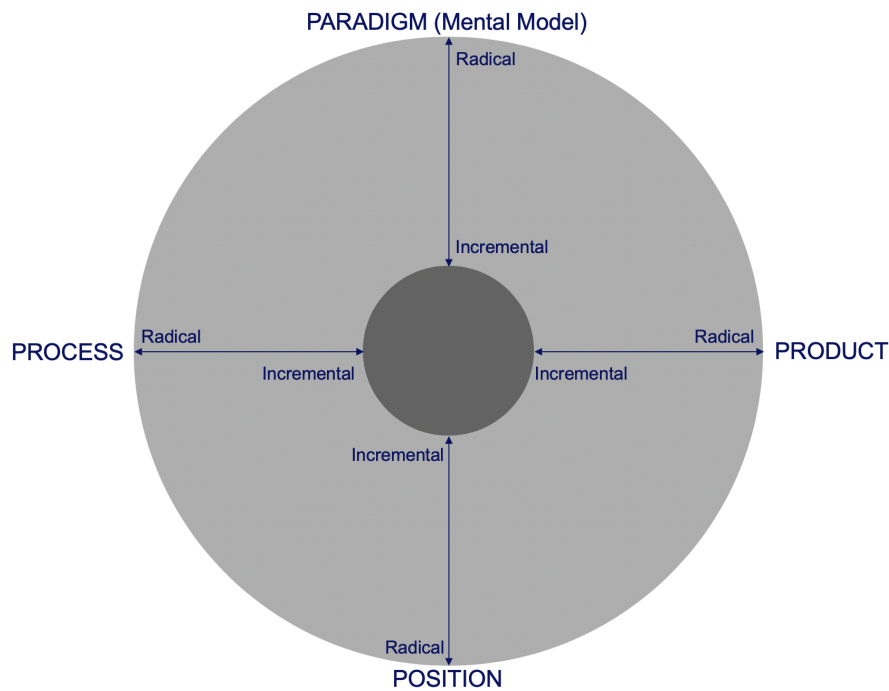
Figure 8: Innovation dimensions and types

In the context and in light of the requirements of the case company, this thesis focuses on finding solutions to support product and process innovation and leaves the position and paradigm innovation dimensions out of scope as they are less relevant in creation of the initial innovation framework and would require more mature innovation management to exist already.

4.3   Innovation Types

There is variety of types of innovation: Open and closed innovation, and radical innovation and incremental innovation. All of them have their own characteristics and dimensions. It is important to understand the differences to be able to define the best innovation approach for the company. The drivers in setting the focus regarding open vs. closed innovation and radical vs. incremental should come from company strategy, operating environment and cultural aspects. It's not a definitive choice between these models, the models can be run side-to-side if for example different business areas require unique approach e.g. due to confidentiality reasons.

4.3.1   Open and closed innovation

Open and closed innovation refer to how a company views the involvement of external parties to their innovation work. A company that executes open innovation involves their

partners and external networks openly to innovation works and can benefit from valuable ideas born also outside of the company. In open innovation these ideas could also go to markets inside or outside of the company, and in this way utilizing the partners and external networks very effectively to provide benefits for the company and its ecosystems. To make open innovation work effectively, company must be comfortable in sharing their strategic goals and plans the partners. This often requires establishing an innovation ecosystem that can facilitate the collaborative innovation process. (Sloane, loc. 567)

Closed innovation is the opposite, the innovation process is run internally within the company without involvement of partners. In the closed innovation the ideas will have to be generated, matured and finally turned into products or services by utilizing the internal resources and capabilities only. This model works best when company has free capacity in the organization, resources and infrastructure that can be utilized to fast execution of the implementations. (Sloane, loc. 567)

4.3.2   Incremental and radical innovation

Incremental innovation refers to improving the things that the company is already doing. The minor enhancements or improvements that the company could do to its processes, products or services can provide great value without wandering too far outside the markets, environment or ways of working that are already familiar to the company. The process that should be used to manage these daily, minor changes is very different in scale and complexity from what is needed for major innovations.

Radical innovation is about introducing new products or services, or major changes to company's way to operate or define itself. In radical innovation the outside-the-box thinking is in key role and best ideas in this area often come from outside of the company's traditional markets. This type of innovations transforms the company and can include high risk – high reward scenarios. Taking a radical idea through the innovation process needs more specialized efforts and skills from the team when compared to incremental innovations which can be done as part of business-as-usual work. (Tidd, page 37)

The key differentiating factor in defining the type of innovation between incremental and radical is the level of uncertainty involved in the ideas. Radical ideas have high degree of novelty and that way high uncertainty. Contrary to incremental innovation where we

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have lots of knowledge about what we are doing, in radical innovation we need to manage the level of uncertainty by putting in more resources to manage the risks involved. (Tidd, page 37)

4.4   Innovation process

As any process, the innovation process should be defined as simple as possible yet effective. A simple innovation process consists of four phases (figure 3) search, select, implement and capturing the value. Search phase is about scanning company's environment, internally and externally, and identifying the signals for threats and opportunities. In Select phase, company should make informed decisions about which of these signals are most relevant to respond to, and this way selecting the ideas which are going to be pushed through to implementation. In implementation phase the ideas are developed to new products, services, process changes or similar and launched to markets, internally or externally. The last phase of the process is capturing the value of the innovation, which should happen in two ways: by measuring the business benefits of the new innovation but also in learning that will help company to enhance the management of innovation process itself.

There is also great importance in the enabling factors for making this process work which are clear innovation strategy and organizational capabilities for innovation. Without having these properly in place, the process won't work efficiently. The chapters relevant chapters will dive deeper into these factors.

4.4.1   Search phase

The company should aim to maximize the amount of innovation sources and the amount of ideas in the search phase. There are multiple ways that can be used to get the innovative ideas flowing in, both internally and externally and the type of ideas the company wants to gather is here also to be considered. The balance between ideas for incremental versus radical innovations can be guided by focusing on certain techniques in the search phase. Defining the search strategy which is aligned with company's innovation strategy and resourcing, is important factor for successful search phase. The search can include e.g. nominating certain people as idea hunters, doing deep dives to give sight on what people actually do, using multiple futures scenario techniques, activating or broadening

the external networks and benchmarking, building venture units, promoting intrapreneurship, diversifying the teams and workforce and using creativity tools to generate ideas. (Tidd, Bessant p.263)

Further on identifying the sources of innovation, there are multiple triggers for innovation that company should be aware of. Most of the successful innovations are result of organized and conscious search for innovation opportunities focusing on certain trigger events. The typical trigger events where innovative ideas are likely to be found within the company are process needs, industry and market changes, unexpected occurrences and incongruities. Outside the company, in its operating environment there can be additional trigger events to look at such as changes in demographics, changes in perception and generally new knowledge. (*Peter F. Drucker, p. 143-144, 146. Harvard Business Review Press. Kindle Edition.*)

In terms of process design and workflow already at the search phase, it is important to make the recording of the new ideas easy to avoid lost ideas due to complexity in the recording. The ideas should also be made transparent and visible so that the amount of duplicate ideas could be minimized. This kind of method should also encourage to participate in developing the common ideas together.

4.4.2   Select phase

In select phase company must select what innovations are pushed forward and which are left behind. In general companies cannot afford to innovate at random, and regardless of the uncertainty involved in the decision making on innovation ideas, there needs to be a way to decide which opportunities are the most prominent for the company. The innovation strategy should provide guidance on these decisions. The uncertainty, risk level and resource demand vary between proposed innovation ideas, the incremental innovation is more likely to succeed as the company already knows more about the subject whereas radical innovation is more of a leap of faith which may pay off with great rewards or could end up failing completely.

Decision-making criteria also varies between the incremental and radical innovation. In incremental innovations the traditional business case approach works to validate the feasibility of the proposed innovation but in radical innovations companies need to take new approach. Here the uncertainty and the risks are higher and without detailed information for business case calculation these decisions are influenced by emotional and

political factors. Some ways to lower the level of uncertainty and reach a shared, common understanding among the decision-makers are using the alternative future approach or prototyping the solution. As typically the blocking factor here is the mental model of decision-making, which is derived from company's general decision-making, it might be useful to consider using isolated environment in radical innovation work. This could mean alternative decision-making paths, alternative funding models and alternative resourcing and implementation structure. In this way, the general corporate governance will not collide with innovations and radical innovations could have a decision-making model which is better fit-for-purpose. (Tidd, Bessant 2009)

In the select phase, the importance of proper portfolio management practices is highlighted as at this stage company should have a overview of all innovations and make the informed selection. This requires maintaining a system and governance that will review the innovations as whole and then make the prioritization and final selection. The system should still be transparent in terms of visibility of the decisions made and the progress of individual innovations.

4.4.3 Implement phase

Implement phase gets the inputs from select phase as ready-made, validated concepts and the implement phase can be divided into three parts: Product/service development, Testing and limited launch, full scale launch. (Tidd, Bessant 2009)

The success of the implementation phase is based on how well and quickly the company can deliver the concept to the market as a product or service. Depending on the type and size of concept different development models may be used so that resource utilization is optimized, and right competencies are made available for development.

Stage-gate model is commonly used as a framework for different kind of project or development models. Also, agile work management methods such as scrum or Kanban, can be used to implement innovation concepts. The selection of the model is based in the innovation concept, but also on the team and organizational setting where the work is being planned to be done.

4.4.4   Capture value phase

Capturing value phase is focusing on how a company can ensure that it gets value from its innovation efforts. The value may be presented in two forms, as hard business benefits such as additional revenue or cost savings, or learnings and knowledge which can be used in future innovations and projects that company is undertaking.

The direct business value is measured through business case benefit evaluation where the output of new product or services is measured against targeted monetary values. Business value of innovation can also be in the intellectual property rights involved. When innovation is about processes and the efficiency this could be measured through cost savings but also as e.g. job satisfaction figures when automating a routine process steps allowing people to focus on more rewarding tasks.

Another form of innovation value is the new knowledge and learning provided to the company. These learnings are directly accessible for the teams that have participated the particular innovation but sharing them further inside the company is providing the added value. The learnings should be fed to processes and product when applicable through a systematic process of knowledge management.

Innovation Strategy

On high level approach on innovation strategy can be divided into rationalist and incrementalist strategy. The traditional, "rationalist" approach is derived from military strategies and consists of three phases: Analyze and understands the environment, then define and plan the actions to be taken based on the analysis and last execute the actions as planned. This doesn't fit well into corporate landscape and innovation as the environment and competition is often changing rapidly and rational approach has lengthy lead-time from analyze to completion. (Tidd, Bessant 2009)

Based on recent knowledge and learning a more incremental approach to strategy is more favorable for innovation as it allows continuous adjustments. "Incrementalist" strategy bases on assumption that given the uncertainty involved in the corporate landscape understanding the complexity and rapid changes is impossible. Following this approach also means that company must have come aware that it only has so little certain information about it's environment and future developments of the relevant fields of business. In this kind of environment, a successful strategy takes more adjustable and incremental

approach by making smaller steps towards the goal, measures and evaluates the effects of the steps and is open to adjust both, the steps and goal, if needed. The approach here is "trial and error", or incrementalism, and within product and process development would typically include steps like design, development, test, adjust design, retest, operate. (Tidd, Bessant 2009)

There are implications in adopting this approach to the corporate strategy formation process. As it has been identified that the future is on uncertain, company should prepare multiple future scenarios instead of one. Additionally, strategy formation should be done as openly as possible and utilizing multiple sources of information and allowing debate and skepticism. Company should also be prepared to really make changes to strategy if new evidence will support that. (Tidd, Bessant 2009)

From market strategy perspective company must decide whether to adopt innovation leadership or innovation followership approach. In innovation leadership company must have strong commitment to R&D and also higher risk appetite, and it should also be very aware of the needs of the customer and new trends of the industry and cross-industry. The innovation followership is about imitating the new services and products launched by others, in this way avoiding the high risk, but requires commitment to competitor analysis and capabilities to reverse engineer the solutions and products. The chosen approach may differ between business areas as there may be well-grounded reasoning for choosing innovation leadership in the areas where company's capabilities, knowledge and resourcing matches the requirements whereas in areas that lack capabilities or risks need to be avoided the innovation followership may be adopted. In practices these two can be mixed well together but in formation of innovation strategy it is important to provide vision on this approach as well. (Tidd, Bessant 2009)

The successful, dynamic company has three key elements in place in its corporate innovation strategy: competitive position, technological paths, organizational and managerial processes. A company must be well-aware of its competitive position, intellectual property right, customer needs and have good relation to its key suppliers. The paths, the strategic alternatives and attractiveness of these should be well-known also. And lastly the processes define the way company is able to operate, these are in important role in terms of company's success in innovation. (Tidd, Bessant 2009)

4.5   Culture and mindset in innovative environment

Innovation is more and more about teamwork and creating an environment where different kind of skillset and perspectives can be put together and work toward shared targets. Key features in building the culture and mindset to support innovations start with clear support from top management to innovate. This commitment could be seen through raised focus in corporate strategy but also by providing the direct investments to team building and enablers which are needed by the team such as facilities, tools and so on. From structural perspective the innovative organization should be enabling creativity, learning and interaction. This should be applied to the company as it fits the best, for some cases a separate organization or "skunk works" model suits well, in other cases more traditional organization model can be better.

Regardless of the organizational structure some roles are key to success in creating the innovative environment. The organization should have roles that energize; promoting the innovative approaches and gathering ideas, and on the other hand facilitating roles that take care that the innovation process and ways of working are in place and required level of control and visibility over innovation works is provided. The personalities needed for these two types of roles are often quite different from each other, as in the previous one there's more need for "sales person" and in the latter ones could be from somewhere between "coaches" to "process supervisors". (Tidd, Bessant 2009)

Innovative environment also needs to have high involvement from the whole organization, it cannot be only few individuals that focus on innovation. This kind of core team would also need the rest of the organization onboard the innovation work and this should be taken into consideration when setting up the organization and building the innovative mindset. Innovation team should have agents or champions all around the company who would support the implementation of the way of working – the "sales persons" as referred before. (Tidd, Bessant 2009)

Additionally, an innovative environment isn't only about the inside of the company, the external networks should be involved too. Having an extensive external network of cross-industry peer companies and other partners is a great asset which can be utilized in many ways in innovation process. The innovative environment should therefore also include elements that enables easy collaboration with these external members. This should start with open mindset within the company, the understanding that the innovation

can be done more effectively if more perspectives can be involved in the process. (Tidd, Bessant 2009)

4.5.1 Innovative teams

A high-performing, innovative team should have a meaningful and shared goal towards which the whole team is motivated to work to. This kind of goal is best formed by the team itself but derived from strategic goals of the company. The goal shouldn't be given from outside pre-defined, but team should get good feeling of the ownership on it by participating in its formulation. (Tidd, Bessant 2009)

Principal leadership and result-driven structure are key ingredients of an innovative team. Leader in the team should be leading by example, encouraging new ideas and ways of working and using time to ensure the support for team from outside organization. Leader should always defend the team against any external negativity. Result-driven structure makes team operate better by minimizing overlapping assignments, providing clear accountability and task management practices. (Tidd, Bessant 2009)

Team benefits also from having a clear set of standards of excellence. This will help to promote teams' skillsets and also set the discipline within the team. Commonly agreed standards make the ways of working clearer and help to maintain the high-quality output of the team. Maintaining the high performance of an innovative team also needs external support and recognition to the team and individuals. In this team leader has important role keeping the rest of the organization aware of the team's achievements without taking the individual credit of them. (Tidd, Bessant 2009)

 When collaborative environment is set in the right way, team should be able to share ideas, elaborate them further and also to provide criticism openly. While doing so team should still be driven towards the commonly shared goal rather than focusing on individual level aspirations. An innovative team needs to focus on the output more than the means to get things done, they should be given guidance on "what and why" but not on "how". Some level of structure is often still useful to work efficiently together with other parts of the organization. Providing little structure around teams work usually makes their work more efficient as it defines which items are in their responsibility and which are taken care by some other team. (Tidd, Bessant 2009)

4.6   Open innovation with external parties

Setting up open innovation with external partners can bring lots of benefits to the company but if set up in a wrong way it may also consume lots of resources from the organizing company in comparison to the generated benefits. By adopting an open innovation approach with external parties, a larger corporation can gain access to vast amount of external ideas which have unique flavor and new, outside perspective. But where the enthusiastic smaller companies, start-ups or universities might provide lots of new ideas to the innovation pipeline, the organizer company should keep focus on idea quality to ensure that the best ideas get forwarded to the development and not to end up gathering masses on unfit ideas. This process must be set in place before opening a innovation scheme to larger external networks, otherwise company may not be able to handle the amount and variety of the ideas. One good way to do that is the gather the ideas through challenges that are well-facilitated.

Methods and partners for open innovation should planned with keeping the company's strategic innovation targets in mind and open innovation should be scaled according company's resource investment into it. Next chapters discuss some of the main approaches to open innovation and evaluate their characteristics. (Sloane, 2011)

4.6.1   Campus program

In campus program universities and other educational or research institutes form the external innovation partner network. These partners are mostly participating the in the search and select phases of the innovation process by gathering external ideas and feeding them in company's innovation process or incubating the raw ideas further. Typically, these partners don't take innovation to the market as this is to be done by the company once innovation is ready for launch.

Especially when partnering with universities company may need to provide quite clear guidelines and themes for the innovation, best formed as challenges. As the participants from university side are students that are often not yet familiar with businesses, they need more guidance in order to ensure that the company gets some actionable ideas.

This kind of co-operation can be very beneficial to all three parties involved: the company, university and the students. From company's perspective additional benefits besides the actual innovations are good publicity towards the university community and

undergraduate students that can be potential recruitments for the company. Company has possibility to follow these students working on the innovation topics and in this way find new direct recruits with needed skillset and somewhat proven experience and motivation.

For the universities involved this co-operation would provide also good publicity in term of potential students that are looking at various options for their studies. Promoting innovative ways of working and especially the possibility to work together with real businesses during their studies could be a deal-breaker for the students when choosing to which university to apply. Also, the outputs of the innovation challenges done in co-operation with a company can provide free marketing for the universities placing them side-by-side with a company with a strong brand image.

For students the possibility to work on innovation with companies and real use cases provide good hands-on experience which can benefit them a lot in the future. There's more motivation for students to really put the effort in when the outcome could be something real rather than working on a theoretical study or a report only. The co-operation also provides students a chance to test and show their skills and motivation which could benefit them later on when looking for work. (Sloane 2011)

4.6.2   Supplier innovation program

The supply chain of company offers good possibility to partner up on the innovation works. As the companies are already having a working business relationship in place the extension of co-operation to innovate together could be logical and easy step to take. It's also very beneficial that the two parties know each other's organization, business models and ways of working already, and typically have good governance over co-operation in place.

In the supplier innovation the actual innovation are typically minor ones and also largely focused on supplier's business model and offering. Therefore, many companies might be already doing some supplier innovation as business-as-usual without really naming it as innovation. In these relationships the money is the biggest motivation, the supplier innovation could be more efficient if the final innovation outputs are subject to profit sharing or other means that clearly would bring more profit to the supplier company as well.

Supplier innovation goes also to the direction of the ready-solutions than vast amount of raw ideas as supplier tends to want to offer the idea and solution in one package. This makes sense because suppliers that are working in the industry have great knowledge about the competitors and future outlook. If needed this behavior can be adjusted by using challenges where the ideas and solution are clearly separated in the process, but it may have demotivating effect. Depending on the maturity of supplier relationship management and the innovation process in the company these supplier innovation challenges can be organized throughout the supply chain or with key suppliers only. (Sloane 2011)

4.6.3   Customer innovation program

Company can also involve its customers actively in the innovation work. Customers can be either individual customers who are end-users of company's services or B2B customers. This is an extended way of gathering feedback from customers so that the company doesn't only get to know what is going wrong or what to improve but also including the customer in the process of solution ideation.

The approach is very useful when targeted to specific improvement areas which requires company to do some ground work on the selected innovation challenge themes. The participating customers can be selected e.g. by segment or other customer profiling factor based on the case where company needs more ideas. Customer innovation focuses on the in-flow of the ideas and to some extend might involve elements from select phase and validation. Depending on the scale of the efforts involved company can offer benefits for participating customers as free or discounted services, social recognition or other non-cash benefits. (Sloane 2011)

5   Building the proposal

5.1   Overview

The CSA interviews completed with the specialists of the case company indicated that there are both strengths and hindering factors in the company in terms of innovative capabilities. Many of the factors found in CSA where also mentioned as focus areas or the best practices in the literature review, expert interviews, and pre-existing knowledge

from my own experience of process development. This proposal will present a suggested model of innovation framework for case company and the suggested high-level steps to implement the framework.

5.2   Innovation strategy

The case company has set transformation as one of its main strategic themes. The transformation is a supporting theme that goes across all the other strategic themes and will impact all the business units. Company has strong need to transform and innovate in order to stay ahead of the competition. Going one level down from transformation strategy, there's the innovation strategy to be defined. Basing on the CSA findings the case company clearly need a defined way forward with innovation as there are no definitions in place at the moment.

Defining innovation strategy provides a good chance to set the scene on high level in a way that a clear separation between traditional development activities and innovation can be made and communicated throughout the company. The innovation strategy must reflect the new kind of principles and new ways of working, and in this way enable the company to take on the innovative work in more systematic way. One of the key points is that innovation belongs to everyone in the case company and this must be clearly communicated and everyone's contribution to innovate must be enabled and asked for. This is a key message that needs to be presented in the strategy.

In the company's industry, the safety and security are in high value in terms of business continuation and these factors make some difference in the innovation strategy definition in critical operational areas from the commercial areas. In operational areas the innovation strategy should take in consideration some extra caution in terms of executing the major changes, but on the other hand this area is the place where it's easier to differentiate from competition and the productized innovation here are more likely to be sustainable as the operational environments are not similar between the companies in the industry. In the core areas of company's operational expertise, there could be possibility to take on innovation followership here as well and implement innovation that other companies have already launched but better. However, innovations in operational area are coming more from inside the company than from external networks and on strategic level this internal idea gathering, and management should be put in focus as it's very important enabler for operational innovations. (Figure 9)

On commercial and customer service area the innovations are mostly service innovation and new products, therefore the drivers for the innovation strategy are different. It is quite much the opposite to the strategy needed in operational area. In these areas the innovations should be bold and very unique, and instead of long incubation and validation periods the time to market is the critical factor here. The service and product innovations are easier to copy and the offering of a successful is therefore unique to a company only for short period. The competition will quickly adopt all the successful innovations. The focus here should be in the fast time-to-market and innovating new products or services that require company specific expertise, resources or market position would likely be the most beneficial ones. Given that many of the services and also products are now turning into digital, the copying of innovations is even easier than before. But innovating on digital area is something where the case company could use and benefit of the good external networks that is has in place. In the area of commercial and customer service the external sources for innovations should be put into major role as the new ideas here do not require industry-specific knowledge or experience as they are more general to all service industries. An ecosystem of innovation partners should be included in the innovation strategy to support especially the innovations on these areas, to bring insights from other industries and help the case company to incubate the ideas.

Operations	Commercial & Customer Service
Hard to copy	Easy to copy
Critical	Non-critical
Sustained	Non-sustained
Long benefit lifecycle	Short benefit lifecycle
Ideas	Learn & copy from others
Internal	External

Figure 9: Business area differences impacting on innovation strategy

In general, the strategy should embrace the true nature of innovations and build the grounds for enablement of efficient, innovative working environment.

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5.3   Innovation Management Framework

5.3.1   Organization

Before going into the details of organization design of innovation management, the ownership of the function should be set. Considering the options that the case company has it is important to look at the current situation, the capabilities and focus of different parts of organization, and from where the innovation management function would have the best impact. The impact that the innovation management can have comes mostly from the strategic focus and the capabilities that can be provided to this function.

As-of the current situation, the digital transformation unit owns the innovation management function within the case company. This unit has heavy strategic focus on the transformation, innovation and renewal and consist of four teams: Transformation, IT, Data and digital solutions development. The unit is led by Chief Digital Officer, CDO. The case of innovation management ownership is quite strong for digital transformation unit as even though the current state analysis revealed there is no real ownership for innovation management now but the activities that resemble innovation are coordinated or done mostly in either Transformation team or in Digital Services Development team. It's worth noting that also business teams do their own innovation for their own business areas but due to the business area focus they are contributing to innovation works only from the perspective of their own areas and not so much on the process or over all coordination of the innovation. Besides the digital transformation unit, there isn't any other corporate level function which would have the right position and capabilities to implement and drive the innovation management, and therefore the best fit for innovation management framework's ownership is in digital transformation unit. (Figure 10)

Within the unit there are basically three options that could be considered: transformation team, digital solution development or establishing a new team within the unit. The new team could be a good option if there would be already clear vision of putting large resources and commitment to the innovation management but as the innovation management is to be set up step-by-step it would be too large change to be made to the organization at this point and on the other hand it wouldn't support the unit's goal of lean organization model. The digital solutions development team has lots of resources and expertise on development and agile ways of working but it is very much focused to certain product and service development areas and would therefore lack the commitment for complete oversight over all innovations. The team has good skillsets that should be used

in the implementation of the innovation management framework but the lead for this should come from elsewhere.

Based on the analysis the transformation team would be most suitable owner for the innovation management. This team has two critical benefits when it comes to innovation ownership. Firstly, the project management office or PMO has already the oversight over all development pipelines and development role over project and portfolio management processes. Secondly, the digital transformation lead role's main purpose is to look ahead, to help business units to see what could be possible in the future and facilitate the testing out new solutions and ways of working. This is very well aligned with the innovation management goals. One more supporting factor for putting the ownership of innovation management in the transformation team is that both PMO and digital transformation leads would both benefit from the wide implementation of the model as from PMO perspective the innovation management framework would help them to extend the pipeline view further to the future which in turn enables better planning in terms of the resourcing and budgeting. From digital transformation lead perspective, the innovation management model is the enabler for driving their work with better efficiency and getting all the good innovations visible and select the best ones to be investigated further.
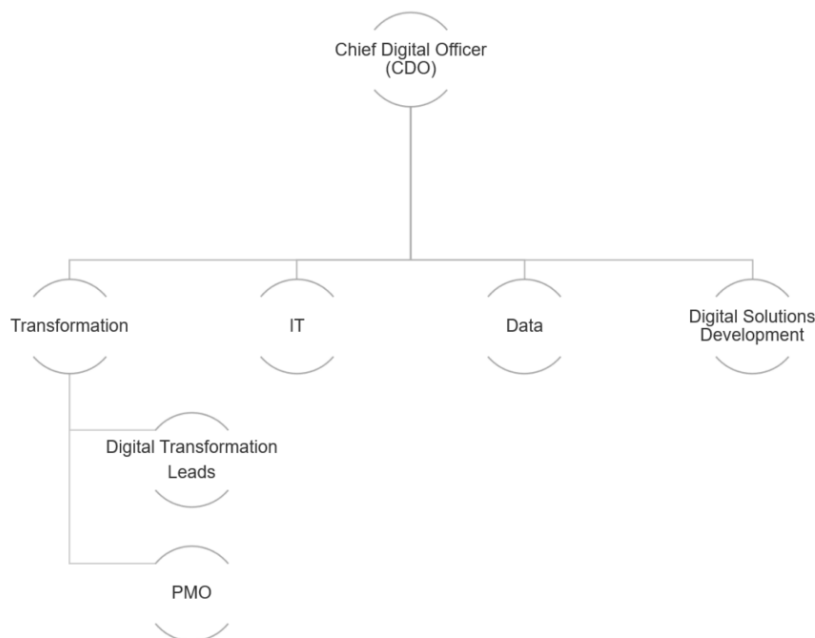

Figure 10: Digital Transformation Unit Org chart

To succeed with innovation management, the case company can use some of the existing roles as-is but will also need some new roles to support the process. The changes

needed in roles will have some impact to the transformation team as well as the business units. The proposed model takes into consideration the current organization model and has been defined so that the innovation management framework could be implemented with minimized impact to current organizations, roles and responsibilities. This approach has been selected based on the experience on large scale change management efforts made within the company and best practices. Both of these supports the approach of minimizing the changes in order to get the most efficient and quick implementation of the new framework. In the following chapter the needed roles and their responsibilities are described, and their reasoning is explained in detail.

5.3.2   Key Roles

Innovation process owner

The innovation process will require a nominated process owner who will be responsible of development, maintenance and operation of the innovation process. This role will look over the process structure and ways of working in it and ensures its fit to the internal and external stakeholders needs. Innovation process owner also follows the KPIs developed for the innovation process and uses these actively as a tool for improvement.

The process owner will have organization-wide authority to make changes to the process and related ways of working to improve the process performance and enable the process to meet its objectives. Process owner works closely together with the stakeholders and participates to innovation activities to maintain good understanding on the environment and the implementation of the process. Process owner supports the innovation champions, digital transformation leads, and business leads in setting up and managing the innovation challenges.

Innovation Champion

The Innovation champion works in a business unit and owns the innovation activities within the unit. The role is focused on innovation and its main purpose is to drive the innovation, promote the practices, communicate with different teams and activate people to participate to the innovation challenges. Innovation champions work in close co-operation with process owner providing input the process development and support the im-

plementation of the process and its changes in the business units. They also are responsible for mapping out the market trends and insights and work together with external peer groups and do benchmarking in business context.

In terms of innovation challenges, the main tool of the selected innovation approach, the innovation champions provide the necessary business resources to work on the selected innovation items and ensure that the named resources have right capabilities and time available to participate.

Innovation champion is the innovation driver on business unit level and having strong business focus in innovation whereas the digital transformation lead is providing the digital insight to innovation efforts. Innovation champion works on the innovations throughout the innovation funnel from explore phase to the start of the development. At this point the development or project managers will take over the responsibility.

Digital Transformation Lead

Digital transformation lead facilitates the innovation challenges together with innovation champions. Digital transformation lead provides the digital and IT perspective to the innovation landscape and acts as link between case company's internal innovators and external innovation ecosystem partners. The main goal of digital transformation lead is to enable the case company's organization to innovate and speed-up the process by facilitating the use of ecosystem resources in this. When starting off there will be more need for facilitation and the learning will gradually scale down the need as the internal and external innovators will get used to work together without the facilitation need.

Whereas the innovation champion is looking at the innovation from pure business unit perspective, the digital transformation lead is focusing on bringing new ideas around how to utilize new technologies in driving and growing the business. Digital transformation leads have been assigned their own business units and they will support the innovation on those business areas.

Digital transformation lead will work mostly in the first phases of the innovation funnel, in explore and incubate, and shifting the responsibilities on the business leads as the innovation forwards in the funnel to the validation and evaluation phases.

Business Lead

Business leads will set the strategic direction for business unit level innovation and define the approach together with innovation champions and digital transformation leads. As explained in the chapter of innovation strategy, the nature of business unit's function may effect on the way how the innovation would be best approached. The strategic direction of the innovation will provide the innovation champions and the whole innovation theme of the unit a guidance, which will be formed in the innovation process as the challenges.

Besides setting the big picture for business unit level innovation, the business leads will participate the validation and decision making on innovation items in the funnel. They will have the oversight for the innovation funnel of their unit and they own the final decision-making power. In combination to this decision-making power comes the provision of resourcing for the innovation work; whether this means people, budget or time it's in the end business lead's responsibility to decide how the resources are best utilized.

5.3.3   Process

The innovation process will be implemented to be a part of case company's development processes. As discussed in the CSA findings there isn't an innovation process currently in place, but innovative works are carried out throughout the organization. Also noted in CSA was that case company has strong development process landscape consisting of three well-grounded processes: project management process, agile development process and small enhancement process. The proposed process is taking the CSA findings into consideration and is build based on knowledge gathered through literature review, company internal workshops, external workshop with peer companies and my own expertise.

The innovation process is implemented in front of the existing processes and is to deliver inputs to the development processes. (Figure 11) The well-working integration of these processes is very important for the successful innovation management as the innovation management will use the existing processes to deliver the value. There must also be good transparency over all the processes and the development pipelines so that the innovations won't get stuck in e.g. the project management process or agile development backlog.
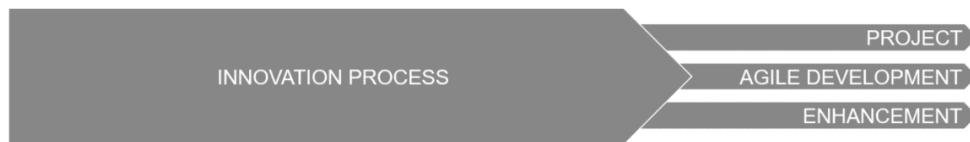
Figure 11: Development process landscape

Innovation process is having five phases of which the last one is visualizing the integration to the development processes. As the development processes are already defined and in place in the case company this description here will not include the description of development processes in detail but will describe how the innovations will flow to the different development processes.

The proposed innovation framework (Figure 12) will use challenge-driven approach. According to the workshops held with internal and external experts this approach has been found to be an effective way to run innovation management in the similar environment and organizational setting that the case company has. The challenge-driven innovation has many advantages over completely open, idea-collection based innovation. By organizing the innovation work into challenges, the company can utilize its scarce resources better, both the organizing resources such as innovation champions and digital transformation leads and the internal innovators who are providing the ideas to the challenge. As the challenge is providing a frame for the innovators, a problem to be solved, the company gets more out of the process as the ideas are aligned with the problem rather than having a mass of all sorts of ideas. Challenge-driven innovation enables the right focus.

Having the right focus helps also in managing the throughput of the innovation process as in this way the innovation team can focus on one or two subjects at the time and select the best ideas to go forward. As the problem to be solved has been set clearly the ideas can be measured against each other and the selection between them is made simpler.

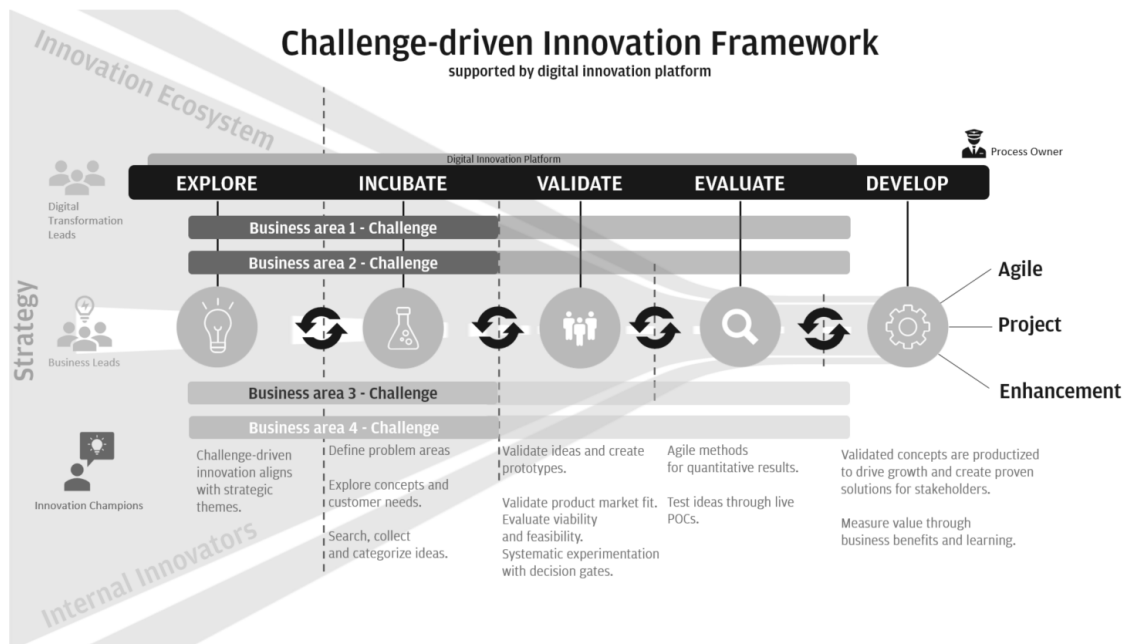Next chapters introduce the phases of the proposed innovation management process.

Figure 12: Innovation Process Overview

EXPLORE

Explore phase is about searching and capturing all possible ideas that may be beneficial for the company. The sources for ideas are various, ideas might be brought up by internal innovators, the employees, or by external parties such as the partners from innovation ecosystem. The ideas might come as spontaneous or be risen from launching a new theme in innovation challenge. (Figure 13)
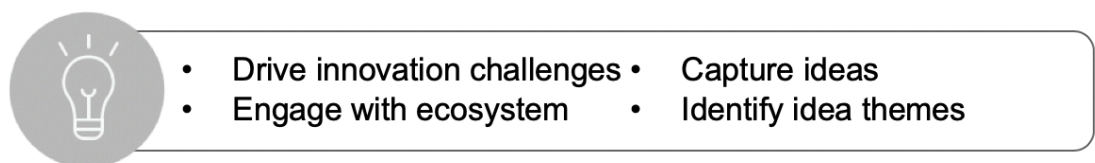

Figure 13: Explore phase - key activities

The key activities in explore phase following the search and capture activities are to categorize the ideas under right themes so that the ownership and facilitation of the process is directed to right individuals. Also, the actions in further phases are affected by the categorization of the ideas as ways to move the ideas forwards towards the possible implementation have some differences.

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When ideas have been categorized under a theme, the responsible digital transformation lead will have a look at the idea and will make the first evaluation of the idea's potential and if it's ready as-is to be directly put to one of the development pipelines. Especially in the beginning of the implementation of the process it is likely that the explore phase will gather some items that would be a clear enhancement or a project and not needing any incubation or other methods included in innovation process.

The categorization of the ideas come at first from the idea owners, the individuals that have come up with the idea, and is further validated by digital transformation leads and innovation champions. The ideas in the same category are reviewed as group, their initial potential and strategic fit is evaluated, and possible overlapping ideas are combined and formed as one. It may be that more input or clarity over the idea is needed for establishing good understanding of it, and in these cases more information is requested from idea owners.

Once all these reviews and actions have been taken the top ideas are pushed forward into incubate phase.

INCUBATE

A single idea may present only the view of a single employee identifying a problem and coming up with possible solution for that. To make more clarity and enhance the idea further it will be incubated, developed further, with a team of selected specialists. The team that will take an idea for incubation will consist of cross-functional specialists which are selected as case specific based on competencies needed in the case. Digital Transformation Lead and Innovation Champions are facilitating this process and setting up the base team for incubation which then can be extended based on the needs. Depending on the case in hand, the team can utilize competencies from innovation ecosystem partners, or the team for incubation phase can in some cases be fully external with only coordination role remaining inside the company. (Figure 14)

- Incubate and grow ideas
- Utilize ecosystem experts
- Analyze customer needs
- Combine similar ideas

Figure 14: Incubate phase - key activities

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In incubation phase the problems or opportunities involved in the idea are defined to a next level of detail and the concepts, customer needs and options for solutions are further explored. As result the idea is matured to a level where the next set of evaluations can be done, and the team is ready to estimate whether the idea is worth validating it further. Again, here ideas are looked for similarities and they are combined if overlapping elements are found.

For the incubation phase the customer involvement is not very extensive, but some customer research can be done to get the good understanding of whether the idea would resonate for the market.

VALIDATE (Review I)

The ideas that get to the validate phase have a clear definition of what needs to be tested with the customers. The ideas are turned into prototypes which can be used to validate the product market fit and its viability and feasibility. In this phase the prototypes are of low fidelity but good enough to get the real reactions from the customers. These prototypes can be sketches, mock-ups or paper interfaces which are used to collect feedback before putting effort into real technical prototype. Storyboards are also helpful way here to validate if idea's hypothesis is correct and is the team headed to the right direction with the development of the idea. (Figure 15)
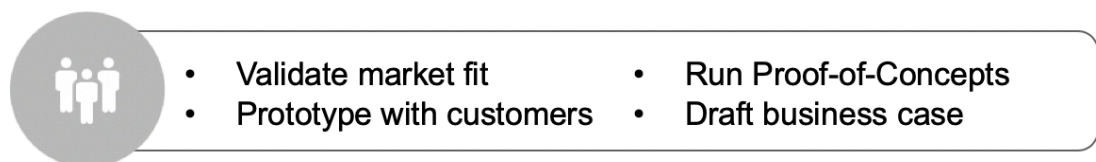

Figure 15: Validate phase - key activities

Following the use of paper prototypes or similar, teams will go into technology validation work and depending on case will do this validation as a study of technological possibilities or as Proof-of-Concept where the selected technologies will be used to build a simple version of the planned service or product. These technical prototypes will be used again to get more customer feedback and getting the real hands-on experience of the service or product.

Having gathered this information, the teams start drafting the business case as the value for customers, market fit, and development costs have been clarified through the activities done in incubate and validation phases. The first version of the business case is then validated together with business owner and funnel decisions are made based on overall evaluation of the innovation item.

EVALUATE (Review II)

Evaluate phase is the final review of the idea before entering the development phase. In this phase the idea is evaluated based on all data that has been gathered as part of the previous process steps and the decision is made whether it's pushed to development phase now, later or does the evaluation indicate that the idea should just be archived without any further steps required. (Figure 16)
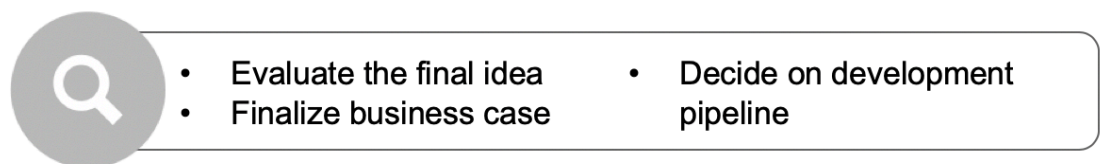

Figure 16: Evaluate phase - key activities

As the funnel is intended to be flexible there can be more customer validation done still in this phase if it's required to get the final version of the idea ready. Also, the business case building and cost estimation is here taken to next level and will get more detail.

In evaluate phase all the experience will be formulated into a proposal which will then be used in the final selection. Important part of evaluation is also to identify which development pipeline is most capable in implementing the idea quickly. Some of the ideas are clear in this sense from very beginning as they might relate to a service that is always developed through a certain development pipeline, but for all the rest of the ideas the final selection of development pipeline happens in evaluation phase. The decisions for development pipeline selection are done in Transformation leadership team.

The final idea is then described using a proposal suitable for the selected development pipeline. If the idea is going to be developed as a a project, it will use project proposal

as final handover document from innovation funnel into project portfolio. If the idea is something that is suitable to being done as agile development, then an Epic Canvas is used for the handover purpose. If going with enhancements idea will be added to team's backlog in their relevant task management system.

All the development pipelines have their own processes and ways of working including tool and these will be used to implement the service or product that originated from the idea. Since the evaluate phase is the last part of the innovation process, before handover to development processes the team will collect the learnings here to further enhance the innovation ways of working. In case the idea doesn't make it all the way to the evaluate phase the learnings will be gathered at the point when idea is killed and archived.

5.3.4   Governance and budgeting

The innovation process is governed by Transformation leadership team, chaired by Head of PMO, and consists of digital transformation leads, the innovation process owner and few senior managers from digital transformation unit. The status of innovation funnel is followed up in the bi-weekly meetings, and the key changes are reviewed. Most of the changes and progress is directly controlled and decided upon by the digital transformation lead who is responsible for the specific innovation area. The digital transformation leads will control their own area's innovation portfolio and do the screening for incoming ideas and select the ones to progress with business side innovation champions. Digital transformation leads have overall decision-making capability over all phases and ideas except if the activities they are about to launch will cause external costs. In these cases, typically using external ecosystem partner or launching a Proof-of-Concept with a vendor, the Transformation leadership team will make the decisions together. The decision is also needed from the leadership team when the idea is proposed to move into development pipeline. (Figure 17)
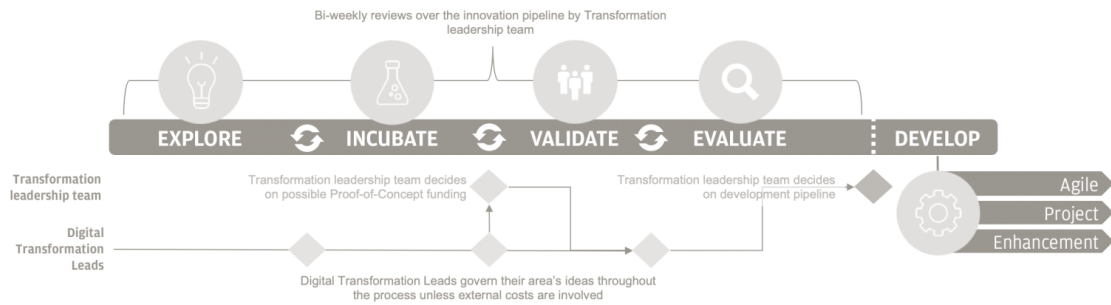
Figure17: Innovation process governance

BUDGETING

Innovation ecosystem will operate a pre-allocated yearly budget which is planned by the Transformation leadership team. The budget will be divided into three elements: Ecosystem costs, Proof-of-Concept and digital innovation platform costs.

Ecosystem budget will include all the partner activities planned for the year including general innovation challenges, innovation event participations and targeted, case-specific uses of ecosystem partners. This part of budget can be used as a booster to progress some ideas that are estimated to benefit from external insights and on the other hand the company presence in global innovation events is gaining the company more understanding of the field and also helps in terms of building the brand image, and extending the partner ecosystem.

Proof-of-Concept budget will cover the costs of PoC's done in validate phase. This is a lump sum budget and there's a 50kEur limit for one-time PoC cost that cannot be exceeded. If a PoC would cost over the limit, the decision needs to be escalated above Transformation leadership team. In this case Head of PMO will facilitate and present the case to secure the proposed funding.

Digital Innovation Platform budget will include the running costs for the application that supports the company to run the innovation process and also the possible development costs related to the application. This alone enables company to get the internal ideas flowing and employees activated and engaged in the innovation process.

PROCESS DEVELOPMENT GOVERNANCE

The innovation process development will be governed by Transformation leadership team and led by innovation process owner. Innovation process owner will facilitate the collection of learnings throughout the innovation process and plan the enhancements to the process accordingly in collaboration with the other innovation core team members. Innovation process will be developed with continuous improvement method, making the improvement available to the process quickly and utilizing the learnings from the process efficiently.

5.3.5   Digital Innovation Platform

In the case company's operative environment, an effective digital innovation platform is a key enabler to reach and engage the internal innovators. As most often the best ideas are born there were people are working day-to-day with the service delivery and the products, it's important to be able to capture all of these ideas and get them to innovation process. A well-built digital innovation platform can facilitate the idea capture from different innovators, internal and external and keep them organized in one place. An exhaustive requirements definition for digital innovation platform is not possible for the company at its current situation on the innovation works and due to the lack of existing process and practices. Some guiding principles have been identified that are necessary to support the proposed model of innovation management framework:

First of the principles is to put the innovation tools into hands of every employee and make the tool as easy to use as possible. According to benchmarking done with multiple innovation tools, the most efficient way to reach this is to integrate the idea capture and innovation challenges into some already existing tool that the employees are used to use in their daily work. In the case company this would best fit into company social media tool, Yammer, provided by Microsoft. In this tool majority of employees visit daily and leaving an idea there would be very easy and natural as the discussions happening there are already full of ideas to be picked up.

Second principle is to ensure that the tool helps the company in making people feeling involved in the innovation throughout the process. This means that the visibility over the idea's progression should be transparent and participation into incubation and validation of an idea should be made easy. Where the Yammer is a clear choice for the tool to submitting the ideas, the processing of ideas must however have a different kind of platform. In the selection of that platform, besides it being well-integrated with Yammer, the key is to ensure that the platform is capable of facilitating the process itself and would

also have good support for communicating about the progress of the ideas automatically. The communication part is very important to be handled well as it's one of the main factors that can make the innovation management successful. If the employees or partners who have come up with ideas don't hear about the progress and get the feeling that they are not involved in the process, the flow of ideas will most probably suffer quite quickly. On the other hand, when the platform can offer automated communication support like sending out thank you messages for the idea submitters, notification and congratulation when a ideas progresses into new phase and some general communication, the team running the process can focus into analyzing and incubating the ideas instead of manually keeping the innovators engagement up.

Third and last principle is the flexible process modelling capability. As the case company is just starting up with standardized innovation process it is likely that there will be adjustments coming up in short term and some details in the process might change often in the beginning. Therefore, the selected digital innovation platform should be easily customizable for the potential changes so that the company can do the adjustments internally without additional external costs for modifications. The learnings that the company will get from running the innovation process will also going to provide some additional requirements which could then be implemented into the platform by the innovation core team themselves.

5.4   Validation

5.4.1   Presentation of the proposal and feedback

The proposal was presented to the Transformation leadership team in a workshop to get the feedback and to agree next steps in terms of starting the implementation of the innovation management framework. The leadership team members were quite satisfied with the proposed solution and didn't see needs for changes to the framework itself. The structure was considered to be well-aligned with the organizations other processes and as well with the ways of working that some of the more innovative teams had used previously. The roles, responsibilities and governance was also agreed to be in place in the model and those where considered to be logical and easy enough to implement in practice. Also, the principles for digital innovation platform were agreed, though it was discussed would it be better to consider implementing the platform only after the process would otherwise be already in place, not in the very beginning. The outcome of the discussion was that the platform is clearly needed to facilitate the idea collection as with

the resources that are available for this it is not possible to start up with manual idea collection.

5.4.2   Further development items and next steps

The development items that were raised in the proposal presentation were about the details of the implementation of the framework and there were factors that were identified to need special focus when implementation starts.

First of them was the creation of a good communication package about the value proposition of the innovation framework. This was seen essential for the success of the implementation as many of the business units are already very busy and they would need to get good understanding on why they should be on board the new innovation framework and the process. Due to business units being so busy with the ongoing development and management of business areas, their expectation is that the innovation framework would provide more resources, as the lack of resources is seen as one of the bottlenecks in the business development. The value proposition communications package should clarify what is offered by the innovation framework, and how it can help the businesses to grow.

Another important point that was raised as part of the development items was that the roles defined here must be clearly communicated to the larger audience in order them to succeed in their work. To ensure the proper mandate to run the process and make decisions. This is an aspect that is related to the whole organization model and culture of the case company, it based on earlier experience it's really important to make this clear.

It was suggested that as the next steps for the innovation management framework, the framework could be extended to include more details about the ways of working in different phases and provide kind of a tool box for driving the innovations. This is valid point and in addition to documenting these ways of working and tools, there should be enough training available for case company's employees to really get to know how these kind of new methods like e.g. service design workshop etc. are used in practice.

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