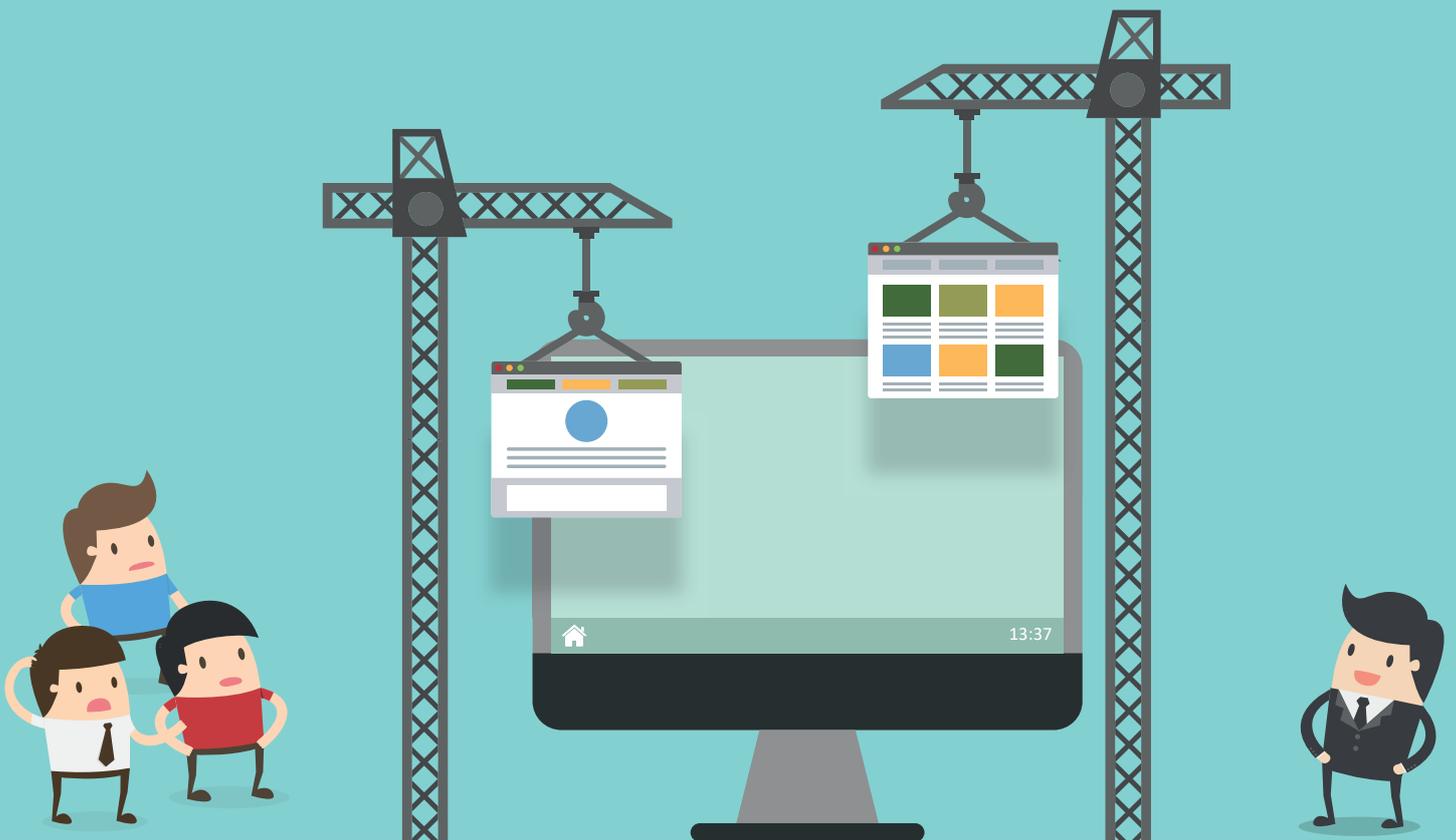


Is IT the right decision?

A case-based study on Copenhagen School of Entrepreneurship's decision to develop a new Management Information System



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Abstract

With technological development, Information Technology (IT) like Management Information Systems (MIS), have become an important part of organizations activities, and are often the basis for decision making. New IT is often seen as the solution to organizations problems, but existing literature and research identifies that most IT projects fail due to factors such as poor planning, a weak team, lack of top management support, and requirement gold-plating. Because of this, it is important for organizations to question if new IT is the right strategic decision. Based on a case from Copenhagen School of Entrepreneurship (CSE), the aim of this Master's thesis is to give insight into whether it is the right strategic decision for CSE to develop and implement a new Management Information System.

Empirical data has been collected through informal observations, documents and manuals, and interviews with the three key stakeholders at CSE. The author has designed and used a problem – solution - change approach, analyzing the data through DeLone and McLean's IS Success Model (2003), Osterwalder et al.'s Value Proposition Design (2014), and Kotter's Eight Step Model for Change (2012).

The results show that, even though the key stakeholders experience frustration using the current system, this frustration is related to lack of education and a low information quality, but not a consequence of the quality of the system. Furthermore, the thesis reveal, that the different stakeholders use the current system in different ways, why one single solution do not fit all three stakeholders. With potential risks related to development of IT in mind, the paper conclude that it only is the right decision for CSE to development and implement a new MIS, if change management is taken into considerations, and if the benefits of a new system is expected to be significant higher than the risks of developing and implementing it. If change management is not addressed, and the new system do not benefit all stakeholders, then the risks of developing and implementing a new MIS is too high.

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1. Introduction

The introduction will present the case, explain important terms related to the case, describe the problem area, and state the research question.

1.1 Case – Copenhagen School of Entrepreneurship

Copenhagen School of Entrepreneurship (CSE) is the student incubator¹ at Copenhagen Business School, and offers students from all Danish universities a space for testing and validating entrepreneurship in practice. This is done through the Proof Program, which is an extra-curricular activity, that takes the students thru a process of validating the idea, the concept, and the business. Since its foundation in 2008, CSE has had more than 660 student startups through the proof program, and get more than 500 new applications every year (CSE, 2017).

Besides free office space, CSE also offers mentoring and practical training in how to start a business. The main goal for CSE is to educate students from all universities in thinking innovative, creating partnerships, designing sustainable business models, and leading innovative teams. The ultimate success criteria for CSE are not, that the students create sustainable businesses, but that they achieve new competencies, they can use no matter, if they start their own business, or work in an established one.

Another objective for Copenhagen School of Entrepreneurship is to collect data on student startups, which is used for research, statistics, decision making, and a general overview of the development of student entrepreneurs. For collecting this data, as well as manage the large number of applications and student startups participating in the Proof Program, CSE has since its beginning used the cloud-based collaboration tool Podio, as their Management Information Tool, and used e-mails for general communication.

Important concepts related to the case is

Proof Program

The Proof Program is a three-step process, that aims to take the student entrepreneurs from idea to business. The Proof Program is built around the three phases Proof of Idea, Proof of Concept, and Proof of Business. Throughout the program, the student entrepreneurs must, in collaboration with a CSE Business Developer, set goals for each phase. At the end of each phase, the student entrepreneurs and a CSE Business Developer will evaluate the goals, and in collaboration decide, if the student entrepreneur should continue to the next phase. As part of the program, the student entrepreneurs can further book meetings with mentors, to get sparring and feedback on their current stage and future activities.

Podio

Podio is a Danish cloud-based collaboration tool, that allow organizations to handle communication, business processes, data and content. The use of Podio is based on workspaces, where organizations can customize these workspaces by adding existing applications, or build their own.

¹ Organization with the purpose to support and guide startups to become sustainable.

As of primo April 2017, CSE has 14 active workspaces used for either internal administration or communication / collaboration with student startups and external partners. Furthermore, close to 1.500 users have access to one or more of the workspaces. These users count founders and team members, employees, and external partners, that have been giving access to the workspaces since the foundation of CSE. Currently CSE only use three main workspaces: Lab People that allow communication, organization and startups in between, Book a meeting room that allow employees and startups to book meeting rooms at CSE, and CSE Lab which is only accessible for Employees, and is customized to register and manage the startups at CSE in a spreadsheet layout. As CSE only use three workspaces, and multiple of the users no longer are a part of CSE, large amounts of data are incomplete and outdated.

To ensure updated information, track more data, and streamline and ease the management of the Proof Program, the General Manager at CSE, in 2015, decided to rethink the IT strategy, and initiated the development of a new Management Information System.

The development of the system was outsourced to software company GroupM, but due to lack of motivation, change of requirements, and poor feedback, the contract was cancelled by CSE (General Manager, 2017), and a partly developed system with minimal functionality was delivered to CSE. The future development of the new Management Information System is now handled in house at CSE.

1.2 Problem Area

Repeatedly, media reports that organizations fail to develop and implement new IT systems. An example of this is SKAT, that from 2005 to 2015 numerous times extended the development phase of their EFI (Et Fælles Inddragelsessystem) system, until Danish Minister of Taxation Karsten Lauritzen (V) in September 2015 suspended the system and commented: “The system is so flawed, that there is no other option politically and professionally than to close it down.” (Jørgensen, 2016). Other media reports that the development of the EFI system costed up to one billion DKK, and would further have expenses of around 100 million DKK when closing down the system. Other cases from Denmark counts “Sundhedsplatformen” developed by the American software company Epic, that even with a highly skilled implementation team, still face resistance against the change (Andersen, 2016; Klinke, 2016), the Danish Police’s case management system “PolSag”, and the Danish transportation payment system “Rejskortet” (Lauesen, 2016).

Laudon & Laudon (2014) finds that research on failures in IT implementation points towards failure due to organizational and political resistance to change, and not the failure of technology. Other researchers also argue that Management Information System development and implementation fail due to factors including lack of top management engagement, misunderstanding of scope / objectives / requirements, conflicts among stakeholders, poor planning, shortage of knowledge/skills in the project team, lack of testing due to deadlines, lack of user involvement, and poor requirement determination (Adeoti-Adekeye, 1997; Nelson, 2007; Dorsey, 2005; Qassim, 2008).

The case from CSE is similar, but on a much smaller scale. The need for more tracking and easier management have led to the decision to build and implement a new IT system. Though, CSE is a small organization, the development and implementation of a new IT system will still require many resources. The first development of the new system has, furthermore, already been stopped and cancelled, even before the implementation was initiated. Although the first attempt for development failed, it has been decided to continue the development with a new project group, and it is therefore highly relevant to investigate, if this is the right strategic decision for CSE.

1.3 Research Question

In this thesis, I therefore will analyze and discuss, if it from a strategic perspective is a good decision for Copenhagen School of Entrepreneurship (CSE) to develop and implement a new Management Information System (MIS) to manage, track, and ease the Proof Program and the data gathered within.

To answer the research question, I will

- Analyze the current management information system.
- Identify the main stakeholders, their needs, and their perspectives on the problematic.
- Map and discuss the value proposition of Podio and a custom build system.
- Analyze and discuss which of the Value Propositions has the best fit with the stakeholders.
- With a focus on change management, discuss how this change will influence the organization.

2. Literature Review

To gather strong background knowledge within this theme as well as to support the findings, relevant literature within Management Information Systems, IT project management and change management have been studied.

The literature included in the review, have mainly been found by searching in academic databases on the search terms Management Information Systems, IT Project Management, Information System Success, and Change Management. Another method has been to investigate seminal articles' bibliographies, as well as similar master theses to find further research within the different themes. The studying of relevant literature resulted in a review which will be presented in the next section.

2.1 Findings

The studying of organizational use of MIS revealed, that researchers in general agree on the importance and benefits of using management information systems in organizations.

One of them, Adeoti-Adekeye (1997) states, that all aspects of modern management highly relies on the use of information for it to thrive and move forward, and further states, that he who has information has power. By this, Adeoti-Adekeye argue that the development and usage of MIS to gather and structure information leads to better planning, better decision making, better executing and better results for an organization. This interpretation of the use of MIS is also shared by (Reddy, Srinivasu, Rikkula, & Rao, 2009) which further add, that the process of collecting, processing, storing and transmitting relevant data into information, support the management operations in any organization.

Originally, MIS was used to process the organizations data and to turn it into reports at regular intervals. Over the years however, the technological change has transformed information systems to become integral, online, interactive tools deeply involved in the minute-to-minute operations and decision making of large organizations (Laudon & Laudon, 2014: 119). Tripathi (2011) further express that MIS primarily serves the functions of controlling and decisionmaking at the managerial level, and has three basic levels: Operational; middle management; and top management with a bottom to top passing of information (Tripathi, 2011: 58).

Though the above highlight the usage, strengts, and benefits of using Information Technology and management information systems in organizations, the development and implementation of these systems often results in critical issues as lack of top management commitment, overspending, shortage of knowledge, failures resulting from conflicts between the organization's goals and purposes for the IT system, and the preferences for the groups and individuals using the system (Qassim, 2008; Curlee & Tonn, 1987; McConnel, 1996; Adeoti-Adekeye, 1997).

In a work from 1996, McConnell (1996) identifies 36 classic mistakes, grouped into four categories related to rapid development of IT systems; people, process, product and technology. McConnell classify these as classic mistakes, as they have been chosen so often, by so many people, with such predictable, bad results, that they deserve to be called “classic mistakes” (McConnel, 1996: 39).

People-related classic mistakes occurs, when consultants, employees or managers in one way or another affects the outcome of the process. Process-related classic mistakes concerns mistakes during the planning and executing of the project. Product-related classic mistakes concerns mistakes within how the product is defined. Technology-related classic mistakes occur when use or misuse of modern technology results in mistakes within the project.

Related to the case, the following classic mistakes is assumed to have a high risk to occur, unless there is a strong focus on avoiding them:

- *Undermined motivation*
Motivation have a larger effect on productivity and quality than any other factor, why a lack of motivation, or focus on motivation, can result in low productivity and a result with low quality.
- *Weak personnel*
If the development team is too small, or do not have the specific qualifications, then the team can be too weak to run and complete the project.
- *Unrealistic expectations*
Running an IT-project without aligning expectations between project managers, developers, customers and the head of the business, can lead to friction between the teams and a poor process. On the other hand, having realistic expectations is seen as one of the top five influencers for ensuring success in an IT-project.
- *Contractor failure*
Organizations sometimes choose to outsource pieces of, or the full project, to a contractor due to lack of resources or a tight schedule. However, contractors frequently deliver low quality or overdue deadlines, and thereby slow down a project rather than speeding it up.
- *Insufficient management controls*
Managers must regularly ensure, that the project keep its requirements and deadlines. Without this control, a project can easily end off track.
- *Requirements gold-plating*
Setting too many requirements for the product can lead to gold-plating, which can result in for example unfinished or missing functions.
- *Overestimated savings from new tools and methods*
Some managers think, that switching technology or methods can results in way better productivity or lower costs. However, the reality is often, that new practices takes time to learn, and the resources spend on learning is often larger than the benefit of using the new tools and methods.

Even though organizations seek to avoid these classic mistakes, McConnell argues that most organisations at

the end of a project find out, that they have made yet another classic mistake, and that they have delivered yet another project behind schedule or over budget or both (1996: 50).

To limit these risks, Top Managers must strongly support the development and change. Both Nelson (2007) and Simonsen (2007) agree that the involvement of top managers, as well as the establishment of strong relationships between top managers and project managers is the most important factor within IT projects. Simonsen (2007) further emphasizes, that involvement from top managers require, that the management undertake sponsorship and ownership throughout the full IT project. This requires, that the top managers believe, that the IT-project is business relevant and that the solutions solve a relevant problem or support the organization.

In a case study on how top managers support information system projects, Boonstra (2013) presents four intentions that top managers should aim for, when Information Systems project is taking place in the organization:

- *Accommodating the implementation process*
Selling the project with great enthusiasm and championship to the organization, and further provide the required and necessary human and material resources, that is needed
- *Reshaping the organizational context*
The top management can ensure that the organization is more adaptive to changes and the new information system by providing the needed resources to change the organization and its culture, and further by using formal power to enforce the new structure.
- *Adapting the technology*
Top managers can take part in the implementation of the new technology by promoting the use of the new system. This can be done by providing resources to adapt the technology and further establish the necessary organizational structure, that is required for the organization to adapt the system.
- *Dealing with stakeholders*
Last, top managers can negotiate with, motivate and influence the different stakeholders. This can help to motivate the stakeholders to cooperate with the development and implementation team.

KEY LEARNINGS FROM THE LITERATURE REVIEW

Earlier research show that Management Information System can play a large role in organizations and be the basis for decision making. The development of new Information Technology, however, often result in failure, if the process is not planned well. Further issues often relate to the management of the implementation and the change, and require a strong focus from the management to ensure, that the organization is ready for change.

KEY POINTS

- Management information systems is important for organizations to perform better planning, make better decisions, execute better and deliver better results.
- Without the right focus, development and implementation of IT have a high risk of failure.
- Top management must ensure that the development is on track, and further motivate rest of the organization to accept and take part in the change.

3. Study Design

The design of this study is divided into three sections, which has been identified as problem, solution, and implementation. These three sections have been defined to focus on the system, focus on the customers' needs, and focus on the human aspect of implementing change in an organization. The following will introduce the three sections, while all theory will be explained in the theoretical framework.

PROBLEM

The first step is to identify and understand the underlying problem for why the decision to build and implement a new system has been made. Without understanding the problem, the analysis of the best solution cannot be executed. The analysis of why the current MIS is not sufficient should include both an understanding of the quality of the system, as well as how the users use it. To analyze the problem, the DeLone & McLean model of IS success will be applied.

SOLUTION

When the problem is identified, it opens for discussing, about what solution is the best for Copenhagen School of Entrepreneurship. As part of finding the most strategic solution, it is good practice to include the end-users, which in this thesis is defined as the stakeholders. Understanding the stakeholders' daily tasks, wants and needs, will give a larger chance for developing a successful information system, that the users are satisfied with. To ensure this focus on the stakeholders, the Value Proposition Design framework presented by (Osterwalder, Pigneur, Bernada, & Smith, 2014) will be the base for this study. The Value Proposition Design is often used by established organizations and new ventures to create products and services customers want, and can therefore – if used correctly - help to understand the stakeholders, and thereby find the best solution.

CHANGE

A solution can be good, but without a strategy for how to implement it, the change will most likely fail. An implementation of a new management information system is a large change in an organization and will affect the daily workflow. To support the stakeholders with the change, it is important for leaders to have the right focus on change management. Planned change management will give the stakeholders a better understanding for the change, and thereby minimize the risk of resistance. For analyzing the leader's focus on change management, theory from Kotter's book on leading change (2012) will be applied to discuss how the change is being handled.

4. Methodological Framework

4.1 Research Paradigm

To allow for an understanding of each individual's formation of meanings, this thesis is written with an interpretive approach. As described by Orlikowski and Baroudi:

Interpretive studies assume, that people create and associate their own subjective and inter-subjective meanings, as they interact with the world around them. Interpretive researchers thus attempt to understand phenomena through assessing the meanings participants assign to them. (Orlikowski & Baroudi, 1991)

Within the interpretive paradigm, the ontology is social constructed, meaning that there is no explicit truth, and that reality is constructed through individuals' interpretations. As these individuals interpret, and do not have the same attitudes, values or assumptions for their interpretations, there are many different realities. These interpretations, or realities, are subjective. This is why this thesis will have a subjective epistemology, meaning that the researcher intervenes with the study and, therefore, cannot avoid influencing or being influenced by the investigators (Darmer & Nygaard, 2006). The interpretive approach requires a complex methodology in which data is not collected, but created through the interaction, the researcher, and the investigated.

4.2 Empirical Method

4.2.1 Informal Knowledge

An insightful method collecting knowledge have been through the authors position as employee at Copenhagen School of Entrepreneurship and responsible for further development and implementation of a new MIS.

This position has given incredible knowledge into the organization, the stakeholders' current issues, and therefore also a strong understanding of how a solution could be designed. The risk of this is, that the thesis will be written with an understanding, that the reader does not possesses, and that the analysis, and especially the discussion, has been written with a subjective view , and include informal knowledge, that cannot be documented. As this informal knowledge has been collected before and during the research for this thesis, it is not possible to eliminate the observations and knowledge, why they have been included in the research.

4.2.2 Qualitative Interviews

The informal knowledge gathered through observation and participation in the environment have formed different hypothesis, that needs to be denied or confirmed. To deny or confirm these hypothesizes, as well as to get a deeper understanding of the customer's jobs, gains, and pains, it has been essential to collect empirical data.

Due to the small size of the organization and the fact that different stakeholders perform jobs in different ways, a qualitative research method has been chosen. By using a qualitative research method, it is possible to gather information and data, learn about meanings, experiences, emotions & relationships, and further reveal stories from the interviewees (Rossetto, 2014).

The use of qualitative interviews has in this case been highly relevant, as qualitative interviews are suitable for obtaining knowledge of the stakeholders' experiences and feelings, and further acknowledge different views on the case.

The qualitative research method is based on the seven steps for interviewing customers presented by Osterwalder et al., (2014) in the Value Proposition Design, and will further be combined with key elements from Kvale & Brinkmann's book on how to conduct qualitative interviews (2009). The combination of the two approaches, ensure an academic research with a strong focus on the stakeholders.

The combination of Osterwalder et al., (2014) and Kvale & Brinkmann (2009) results in the following eight steps for interviewing potential customers:

1. *Create a hypothetical customer profile*

Before initiating the interviews, the hypothetical jobs, gains and pains for the specific customer profile will be sketched out and ranked into order of importance. Kvale & Brinkmann (2009) recommend that the interviewee formulates the purpose of the interview, and further define the why and what before the how (design of the interview) is asked.

2. *Create an interview outline*

The purpose of creating the interview outline, or interview design (Kvale & Brinkmann, 2009), is to clarify, what the purpose of the interview is, and further ensure that all questions have been covered. A more detailed and descriptive outline of how the interviews will be designed is described in section 4.2.2.1

3. *Conduct the interview*

Step three is to conduct the interviews. The interviews will – as mentioned – be based on the interview guide described in step two.

4. *Capture*

After conducting the interviews, the interviews will be analyzed to reveal important data and information. Osterwalder et al., (2014) and Kvale & Brinkmann (2009) propose two different ways of "capturing" the interview. While Osterwalder et al., (2014) put the focus on mapping out the jobs, pains and gains revealed in the interview, Kvale & Brinkmann (2009) takes a more academic approach and identify this stage as transcription with the focus on transcribing the interview from speech to text, and analyzing with the purpose of clarifying, what method of analysis is the most relevant for the interviews. For this study, the interviews will both be transcribed and coded to identify jobs, pains and gain.

5. *Review the interview*

Reviewing the interviews is optional based on, what has been learned from the interviews. Reviews will in this paper only take place, if additional information or clarification is needed, or if new fields of

interest emerge.

6. *Search for patterns*

When the interviews have been transcribed, captured and analyzed, different patterns might be discovered. The different patterns will be investigated to understand, why they are similar and to understand, what context influence these patterns. Searching for and discovering patterns will also be used to determine the validity, reliability and generalizability of the interviews (Kvale & Brinkmann, 2009).

7. *Synthesize*

Finally, after designing, conduction and analyzing the interviews, the information will be used to make a synthesized customer profile for each of the customer profiles.

8. *Reporting*

Kvale & Brinkmann (2009) mentions one last important step – the reporting of the analysis. When the interviews have been designed, conducted and analyzed, the results of the research will be presented in a form that live up to academic criteria. The result of the reporting will, in this case, be the master thesis.

4.2.2.1 Designing the Interviews

To focus the interviews on general themes and main questions, but still to have the possibility to deviate from the main questions, the interviews will be semi-structured (Justesen & Mik-Meyer, 2010). Ensuring the opportunity to deviate is necessary to identify all jobs, pains and gains, that the interviewees have.

There are different approaches on how to execute a semi-structured interview, and whether the same set of questions should be asked to all interviewees, or if questions should be customized to the individual. For this research, all interviews will follow the same themes, but questions - including main questions - will be customized the individual stakeholder, and in some cases customized to the individual interviewee.

All questions asked has been open-ended, and will, where needed, be followed up by a why or a how questions to get the interviewees personal experience, meanings and emotions. Table 1 shows an overview of the different stakeholders that has been interviewed. All stakeholders work from the CSE office as either General Manager, employee, or founder of their own startup.

Table 1 | Interviewees

Citation	Stakeholder
General Manager	General Manager
Employee 1	CSE Employee
Employee 2	CSE Employee
Employee 3	CSE Employee
Founder 1	Founder
Founder 2	Founder
SVAA	Studentervæksthus Aarhus (not a stakeholder)
SIH	SUND Innovation Hub (not a stakeholder)

4.2.3 Manuals & Documentation

The design manual and specification of requirements from the earlier development-project run by GroupM, have been obtained from Copenhagen School of Entrepreneurship. This to get an insight into the idea behind the system, as well as knowledge on the different requirements.

As neither the design manual nor the specification of requirements are owned by the author, they will not be directly cited or included in the appendix.

4.2.4 Prototype of Podio

As part of this thesis, a simple prototype has been created, to experience the possibilities and opportunities for re-structuring the use of Podio. The prototype only consists of a simple workspace on Podio, that combines data from the users' personal profiles, as well as data about their startup.

4.2.5 Triangulation

By triangulating the different empirical methods and combine two or more data sources, findings are easier to validate. As presented above, this research combines former research, qualitative interviews, manuals & documents, prototypes, as well as informal knowledge.

5. Theoretical Framework

This chapter will describe the theories used in this thesis. The three main theories: Value Proposition Design, DeLone & McLean IS Success Model, and Kotter's eight step model for change, have been chosen to ensure a focus on the system, the stakeholders and the organization. Furthermore, these three theories give a strong basis for the problem, solution, change approach that is the study design for this thesis.

5.1 Delone & McLean IS Success Model

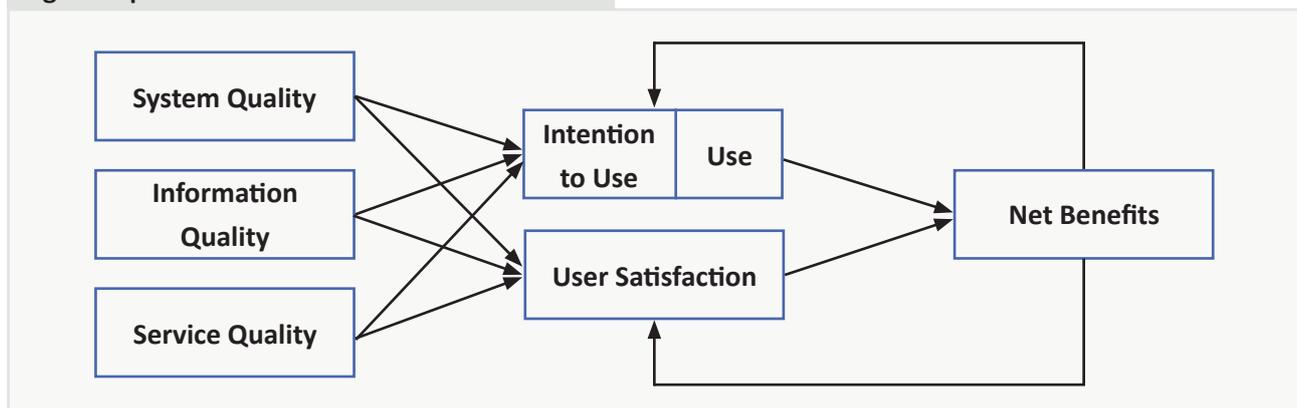
The literature review identified the importance of management information systems in organizations and some of the classic mistakes that are related to the development, implementation and usage of these systems; but does not mention quality measurement of IT-systems.

As introduced, the Value Proposition Design can successfully reveal the problems the customers are facing, and reveal how the product's value proposition seeks to solve these problems. However, the Value Proposition Design is only focusing on the positive part of the product – what it offers, how it relieves the customers' pains and how the product creates gains for the customers – but not on the negative parts of a current product like lack of quality and user satisfaction. A model for evaluating the current IT-system is therefore necessary to get an overview of the systems quality, and to identify why the customers experience pains.

A comprehensive model for understanding IS success was presented in 1992 by DeLone & McLean, and was further refined by DeLone & McLean a decade later based on contributions from other researchers, as well as changes in the role of information systems. The DeLone & McLean Model of Information System Success was developed to give an understanding of an IT systems success by identifying, describing, and explaining the relationships between six different - and important - dimensions that all are commonly used to evaluate Information Systems (DeLone & McLean, 2003).

The D&M Model of Information Systems Success divides the success of a system into "quality", which affects the "use" of the system, which finally has an impact on the "net benefits" of using the system (DeLone & McLean, 2003).

Figure 1 | DeLone & McLean IS Success Model



An important factor is, that the model cannot be seen as a “process”, where data is entered in Quality and a result is revealed in Net Benefits. The model simply gives a tool for analyzing the most important dimensions in an Information System, and how these affect each other. A system’s success is therefore the outcome of, how these dimensions influence each other.

Quality has three major dimensions: Information Quality, Systems Quality, and Service Quality. Each of these dimensions should be measured separately, as they will either affect subsequent use/intention to use and user satisfaction alone or together. How the users use the system is divided into two separate dimensions: Use/Intention to use and User satisfaction. In their original paper, DeLone & McLean did not include the intention to use; they first presented this in their updated model, and suggested that intention to use may be a worthwhile alternative measure in some contexts, as intention to use is an attitude, whereas use is a behavior (DeLone & McLean, 2003). Use/Intention to use and User satisfaction are closely interrelated. Use will lead to user satisfaction in a process sense, and high user satisfaction will lead to an increased intention to use and use. The use and user satisfaction will result in certain Net Benefits which further influence intention to use and user satisfaction in both positive and negative ways. Great Net Benefits might lead to higher intention to use and better user satisfaction, whereas negative net benefits might lead to less intention to use and lack of user satisfaction.

The most obvious way to investigate the success of an IT system is to confirm or deny a number of hypotheses for each dimension by conducting a quantitative study. Through this, a statistical analysis could reveal the respondents’ perception towards each dimension, and further show how the dimensions’ influence each other. This could, for example, reveal that the low user satisfaction in an Information System is the consequence of low system quality even though both information quality and service quality are high. Another example could be that, due to low net benefits, the users have no intention to use the system even though system quality, information quality and service quality are high.

However, this method requires a large set of data based on answers from numerous users. Due to the small group of stakeholders, a quantitative study would not give accurate results; the sample size simply is not big enough for generalization. Further, the small group of users use the system differently, which gives different interpretations towards the different dimensions. These interpretations are easier to capture through qualitative research, when the user base is this small. In the following, the six dimensions will be described.

System Quality

The System Quality concerns, how good the system is based on its operational characteristics. In other words: Is the system working and operational for the users? To analyze the quality of the system, one must take different factors into consideration.

These factors include: usability – Is the system user-friendly and easy to learn / use; availability – Is the system available, when you need it; and response time – do you get the information in time, when you need it.

Information Quality

The Information Quality reflects, how good the information produced in the system is. Information Quality will be measured on factors like relevance – is the output relevant for the managers; accuracy – how

accurate is the output; completeness – Is the output complete; understandability – Is the output easy to understand; usability – can the output be used by the managers; accessibility – Is the information easy accessible.

Service Quality

The Service Quality dimension was added to the model by DeLone and McLean in their ten-year update of the model (2003). The Service Quality became a part of the model as other scholars observed, that commonly used measures of IS effectiveness focused on the products rather than the services of the IS function or product (DeLone & McLean, 2003). The dimension concerns, how good the service to the end users is.

DeLone & McLean propose to use the SERVQUAL metric to analyze the Service Quality – though they agree that the SERVQUAL metric needs continued development and validation (DeLone & McLean, 2003). The SERVQUAL metric measures five factors of Service Quality: Tangibility – the physical facilities, equipment and appearance of personnel; Reliability – the organizations ability to perform service accurately and dependably; Responsiveness – the organizations willingness to help users and provide prompt service; Assurance – the employees knowledge and courtesy to inspire trust and confidence in the users; and Empathy – individualized caring and attention for the users.

Due to the number of users, a full SERVQUAL analysis will not be possible to carry out; instead, the factors from the SERVQUAL metric will be analyzed based on the qualitative data from the interviews.

Intention of Use / Use

Measuring use as a success variable has, after the first model was released, been criticized for being appropriate for inclusion in a process model, but not in a causal model” (DeLone & McLean, The DeLone and McLean Model of Information Systems Success: A Ten-Year update, 2003, p. 16). Further criticism has been, that use of a system precede benefits and impacts, but does not cause them (DeLone & McLean, 2003:16). However, McLean and DeLone disagree with this criticism and argue, that system usage is an appropriate measure of success in most cases, but that researchers must consider different aspects of use and not just say, that more use will yield more benefits (2003: 16).

DeLone & McLean propose, that when measuring use, researchers must, among others, consider nature of use – is the full functionality of the system being used; purpose of use – is the system relevant for the employee; and amount of use – how much/often is the system being used?

User Satisfaction

The user satisfaction is the user’s feelings of pleasure or displeasure when using a given system, and is considered to be the most common measure of success for information systems by Seddon & Kiev (1996). Measuring and understanding the users feeling towards the system will help to understand how this influence the intention to use as well as net benefits. DeLone & McLean (1992: 69) also state, that studies have found, that user satisfaction is associated with user attitudes toward computer systems, so that user-satisfaction measures may be biased by user computer attitudes.

The users’ satisfaction towards the system will in this thesis be clarified based on qualitative interviews, and questions specifically phrased to understand the user’s satisfaction.

Net Benefits

Net Benefits are the value and benefits, the users get when using the information system; to which degree the information system contributes to the success of individuals and groups within the organization. DeLone & McLean (2003) argue that Net Benefits is the most important dimension, as it captures the balance between the positive and negative aspects and impacts the information system has on the individual and organizational level. There are two common ways to measure the net benefit.

At the individual level, the most common measure is perceived usefulness or job impact presented by Davis (1989), while at the organizational level profitability measurements seem to be preferred (Petter, DeLone, & McLean, 2008).

5.1.1 Delimitations and Considerations

Due to the time available, the scale of this project, and the number of users available, a full analysis as proposed by DeLone & McLean is not possible. The DeLone & McLean IS Success Model will instead be used as a framework to analyze and identify, how the users perceive Podio, how they use it, where they experience frustrations, and how satisfied they are. Though most of the measurement tools presented by DeLone & McLean (2003) are based on a quantitative research, it is believed, that using this model with a qualitative approach still gives valuable insights into the users' perceptions of Podio's success.

5.2 The Five Why's

Understanding the root to a problem, it is necessary to identify, why it occurs and ultimately how to solve that specific problem. A problem might seem simple to fix, but often the problem has underlying factors, that digs further into the organization – or process - than just the problem. To prevent the same problem from happening over and over again, these underlying factors must be identified and solved. In 2010, Eric Ries presented a Five Why's approach - Based on Taiichi Ohno, the man behind the Toyota Production System – which became part of his Lean Startup methodology (Ries, 2011). The Five Why's approach is used by startups and organizations to prevent failures when accelerating a process. The mindset of the five why's is, that behind every supposedly technical problem is a human problem (Ries, 2010), why startups and organization should try to identify the human problem instead of quick-fixing the technical problem.

An Example of the Five Why's

Toyota production system beyond large-scale production, (Ohno, 1988)

When confronted with a problem have you ever stopped and asked why five times? It is difficult to do even though it sounds easy. For example, suppose a machine stopped functioning:

1. Why did the machine stop? (There was an overload and the fuse blew.)
2. Why was there an overload? (The bearing was not sufficiently lubricated.)
3. Why was it not lubricated sufficiently? (The lubrication pump was not pumping sufficiently.)
4. Why was it not pumping sufficiently? (The shaft of the pump was worn and rattling.)
5. Why was the shaft worn out? (There was no strainer attached and metal scrap got in.)

Repeating “why” five times, like this, can help uncover the root problem and correct it.

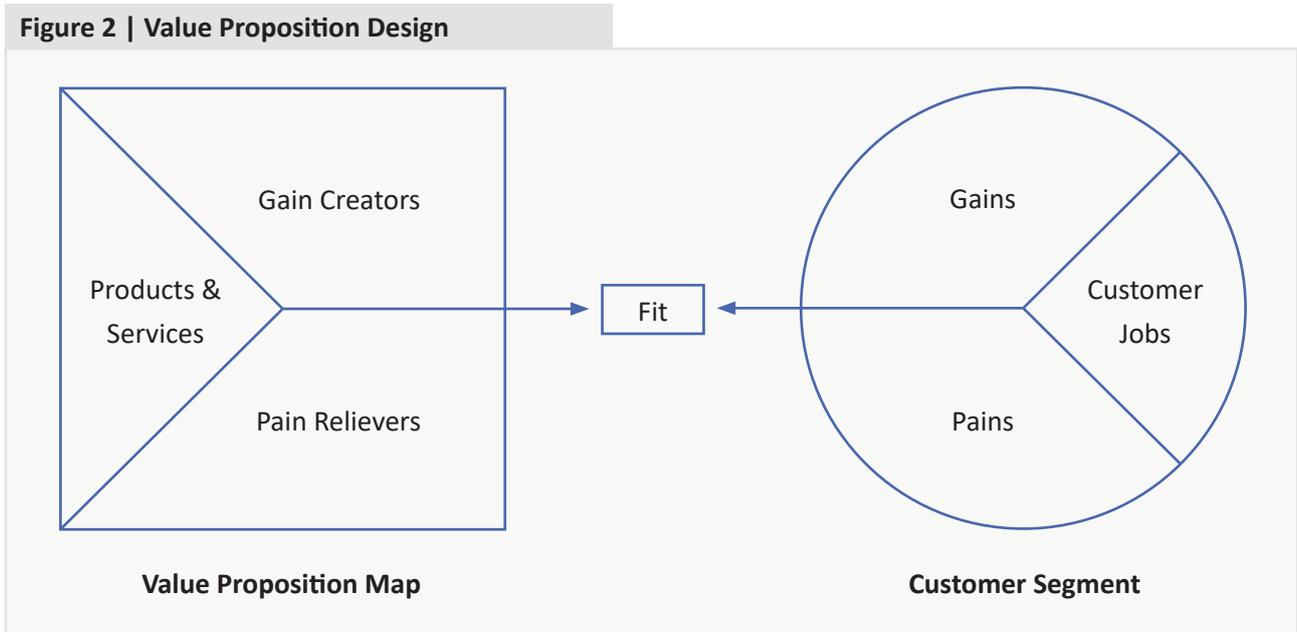
If this procedure were not carried through, one might simply replace the fuse or the pump shaft. In that case, the problem would recur within a few months. The Toyota production system has been built on the practice and evolution of this scientific approach. By asking and answering “why” five times, we can get to the real cause of the problem, which is often hidden behind more obvious symptoms.

Applying Ries' Five Why's approach to this research is highly relevant, as the root to the problems must be identified to analyze, if a new system is the right decision. If just identifying and solving the first problem that occurs, for example that the current system is not easy to use, it could seem, like the best decision is to build and implement a new system. By asking why multiple times, it could instead be revealed, that the root of the problem is, that the employees do not have the right knowledge to use the system. The best decision in this case, would then be to educate the staff instead of building a new system for them.

Though, it is called the Five Why's, it is not always necessary to ask why five times. In some cases, the root to the problem might be found after asking why three times. The five why's approach will be applied to major problems identified in the analysis section.

5.3 Value Proposition Design

The Value Proposition Design (VPD) is based on the Business Model Canvas (BMC) framework. But, where BMC focus on a company's full business model by identifying nine different blocks, VPD zooms in on only two of these blocks: The Value Proposition and the Customer Segment. This to specify exactly, what the customers need and want, with the goal to build a solution that fit.



5.3.1 Value Proposition Map

The Value Proposition Map offer a model for describing, in a structured way, the features of a specific value proposition (product). The value proposition focuses on, what problem the product solves for what customer segment, to reveal exactly what value is delivered.

The value proposition map is divided into Products & Services; Pain Relievers; and Gain Creators; and will be used to analyze, identify and map out the Value Proposition for the current Proof Program and for a future system.

Products and Services

Identifying the products and services is important to show exactly, what the value proposition offer. In the context of this study; interviews, usage, documents, and specification of requirements from GroupM will be included in the research, to give an overview of the essential services and features, that the current and future system offer.

Pain Relievers

The pain reliever block identified exactly how the current and the new system will alleviate the specific

pains the customers have. Further, this block will describe how the systems seek to eliminate the tasks, that annoy the customers or that the customers experience problems with, both before, during and after they perform their jobs. Osterwalder et al., (2014) also note, that it is important to differentiate between essential pain relievers and pain relievers, that are nice to have.

Gain Creators

A great value proposition will create different Gains for the customers. In this thesis, the gain creator block will be used to identify, how the two systems will create benefits and gains for the different customer profiles. Osterwalder et al., (2014) states, that gain creators do not need to address all the customers gains, but that the gains should be focused on relevant products and services that can make a difference for the customer profiles.

5.3.2 Customer Segment

The customer Segment map out the customers' pains, gains and jobs. Using the Value Proposition Design to analyze and understand the profile of the customers will lead to a better understanding of, what exactly the customers need and want, and thereby find the best solution for the organization. The customer segment is divided into customer jobs; customer pains; and customer gains.

Customer Jobs

The customer jobs count all the tasks, the customers' need to get done to perform their job.

The block will be used to map out all the tasks, the different customer segments try to perform, complete and solve. Osterwalder et al., (2014) highlight functional jobs, social jobs, and personal/emotional jobs as three main types of customer jobs, and Buyer of value, co-creator of value and transferrer of value as supporting jobs, and further argue, that it is important to distinguish between these different kinds of jobs.

Customer Pains

The Customer Pains is the identification and mapping of all the problems and frustrations, the customer groups experience, when they seek to perform and complete their jobs. Osterwalder et al. (2014), highlight undesired outcomes, problems and characteristics, obstacles, and risks as three types of customer pains.

Customer Gains

The Customer Gains gives a deeper understanding of, what outcomes and benefits the customers need and want to perform their job. When investigating the customer gains, it is important to be concrete and further investigate multiple different types of gains including required gains, expected gains, desired gains and unexpected gains.

5.3.3 Fit

The goal of the value proposition design is to assist the researcher to, in a systematic way, design products, that solve the users' problems, enable their gains and achieve their jobs. When the value proposition map offer a solution, that support the users' in their jobs, relieve their pains, and create gains, then a fit occurs. In other words, to create a fit, the products and services, gain creators and pain relievers of the Value Proposition Map must match one or more of the jobs, pains and gains, that are important for the customer segments.

Osterwalder et al., (2014) introduces three stages of fit:

Problem-Solution Fit

The first stage of fit between a value proposition and a customer segment occur on paper, when the mapped value proposition, relieve pains and create gains that match the mapped customer profile. This is called a problem-solution fit, as the value proposition propose a solution to the customers' problems. However, at this stage, there are no actual evidence that customers care about the value proposition; the fit only exist on paper.

Product-Market Fit

When start to positively react to the value proposition, and the value proposition gets traction in the market, a product-market fit occurs. Before the right product-market fit occur, the value proposition might change multiple times, as many of the initial ideas in the problem-solution fit, not necessarily create the expected value for the customers.

Business Model Fit

Finally, the business model fit, when there is evidence that the value proposition can be embedded in a business model that is both profitable and scalable.

5.3.4 Delimitations and Considerations

The Value Proposition Design offer a full framework for designing a value proposition with a focus on, what the customers want, and use this focus to prototype and test the value proposition.

However, due to the research question, as well as the scope of time, only the first stage of the Value Proposition Design - the mapping on canvas - will be addressed. The value proposition will therefore not be fully designed, build, or tested as part of this thesis, and can therefore only result in a problem-solution fit.

One of the most important considerations has further been, how to use of the Value Proposition Map.

If used exactly as described by Osterwalder et al., (2014) the value proposition should be designed based on the customer profiles. However, in this case, the value propositions for the two systems have been fixed from the start, why the Value Proposition Map is used to see, if there is a fit with the customer segments, and not to design them to fit. Furthermore, the customer segments are defined based on their use of the current system, and not based on their daily work. Osterwalder et al., (2014) further note, that it is important not to map the

customer profiles based on their use of a specific product. But, in this case, it is considered to be the right decision to do so, as the customer profiles - even though they are based on the use of a specific product – give important insight into the stakeholders' issues and wants.

Using the full Value Proposition Design framework would only be beneficial, if the focus was to design a value proposition to fit the customer segments, and not to find the best fit between two existing value propositions and the customers.

5.4 Kotter's Eight-Step Model for Change

As this paper seek to answer, if the development and implementation of a new Management Information System is the right decision for CSE, and not how to implement a management information system, theory on change management will be applied to understand if the organization is ready for change, but not used to plan the change.

A lot of research within change management has been done, resulting in different proposed models and best-practices for an effective and successful manage of change in an organization. For example, McNish (2002), that in a statistically research, studied how several factors affected the outcome (success or failure) of the change, resulting in the presentation of nine guidelines for successful implementation of IT projects.

However, one of the most prominent researchers within change management is John P. Kotter. In 1996, he published the book "leading change", that presents an eight-step model on how to successfully handle change in an organization. In 2012, the book was republished by Harvard Business Review Press, as the eight-step model was still highly relevant in a world changing faster than ever before (Kotter, 2012).

Kotter's eight step model for successful change can be divided into three main categories: *Creating the climate for change* (step 1-3), *Engaging & Enabling the organization* (step 4-6), and *implementing & sustaining for change* (step 7 & 8). Due to the current stage of the development and change, step five to eight will not be included, as they will not be relevant yet.

The first four steps are briefly described below. As step five, six, seven, and eight are not relevant, a description of these steps are not included in this section:

1. Create Urgency

People tend to resist change, why it can be difficult for people in an organization to understand why change is needed, if there is no visible crisis in the organization. The first step for a successful change, is therefore, to create a sense of urgency amongst the people experiencing the change.

2. Form a Powerful Coalition

Forming a powerful guiding coalition is important to lead the change, and convince rest of the organization, that the change is important and useful. When putting together the coalition, it is important to

include people with a variety of skills, personalities and positions in the organization. These could be managers and employees at different levels, top executives, shareholder representatives, and experts. A powerful coalition can strategically be assembled to include the right people, representing the right groups.

3. Create a Vision

Creating a strong vision, that is easy to promote, is an important step to guide the project in the right direction, and have a significant influence on the success of the change. A strong vision is clear and easy to communicate, but not too specific, as this would leave no opportunity for future innovation. The purpose of the vision is to communicate how, the reality in the organization, will look like after the change.

4. Communicate the Vision

When a strong vision is created, the next step is to communicate it to the organization. It is important to communicate the vision often, and include the guiding coalition in the communication. Using metaphors can be good practice, as this can help to paint a verbal picture, and be easier to remember than the full vision. Actions can, furthermore, be more valuable than words, why it also is recommended to walk the talk.

KEY LEARNINGS FROM THE THEORETICAL FRAMEWORK

The theoretical framework present the three main theories used in this thesis, as well as the Five Why's approach that will be applied when relevant. The Value Proposition Design, the DeLone & McLean IS Success Model and Kotter's eight-step model for change, are all relevant to ensure the focus on the system, the stakeholders and the organization. None of the theories will be used for its full intended purpose, but will be combined to create a strong basis for understanding the problem, finding the solution, and handling the change.

KEY POINTS

- DeLone & McLean IS Success Model presents a framework for analyzing the state of a system, as well as identifying where and why the stakeholders experience frustrations and problems.
- The Value Proposition Design gives the opportunity to specifically focus on the stakeholders, and their jobs, problems and wants, as well as identifying what value proposition offer the best fit.
- Applying Kotter's eight-step model for change ensure a strong perspective on the organization, as well as their readiness for change.
- Using the Five Why's approach can help revealing the underlying problems, and thereby identify actions to minimize the risk for returning problems

6. Stakeholders

The following chapter will identify all relevant stakeholders, that either interact with, or have an interest in getting data and information from, the proof program. The stakeholders are identified based on earlier system documentation, as well as the interview with the General Manager at Copenhagen School of Entrepreneurship.

It is important to notice, that where stakeholders are often seen as external partners for an organization, the term stakeholder in this thesis, also relate to internal groups at CSE.

6.1 Key Stakeholders

The key stakeholders are identified as stakeholders, that have a high influence and / or high interest in the Proof Program. These stakeholders have been identified based on their current influence in the Proof Program, their use of Podio, as well as based on the interview with the General Manager.

The following section will briefly describe who they are, what they do, and why they are important.

CSE Employees

The CSE employees counts business developers as well as general employees. The CSE employees's job is to facilitate the proof program, and therefore use Podio to manage information, track the startups and communicate with the startups. CSE employees are important stakeholders, and will use the system on the most regular basis to support their tasks

General Manager

The General Manager at Copenhagen School of Entrepreneurship use the system to get an overview of the startups, as well as exporting statistics. The general manager is important, as it is her decision to develop and implement a new system.

Founders

Founders at CSE are students – or recent graduates – that have started their own startup or are working to proof the concept of their idea. The founders apply to join the proof program at Copenhagen School of Entrepreneurship, and will throughout their stay at CSE participate in proof meetings with CSE Employees, as well registering data on their startups and team members. The founders are important as their data is crucial for the system, and as they count as the “other part of the users”.

6.2 Secondary Stakeholders

Secondary stakeholders are identified as stakeholders, that do not directly interact with the Proof Program, but require, or would benefit from, data and information related to the Proof Program and the Management Information System used by CSE.

CBS Top Management

As CSE is a sub-organization at Copenhagen Business School (CBS), the Top Management at CBS must be taken into consideration as a secondary stakeholder. The Top Management do not have direct access to management of the Proof Program, but require data, statistics and reports with information from the General Manager at CSE.

Mentors

Mentors at CSE are business professionals and/or former student entrepreneurs, that guide and support one or more startups at CSE. Based on the documentation for the new system, the mentors need access to the startup profiles, but will in this paper be delimited, as they do not have any roles in the first versions of the system, and do not have any interaction in the Proof Program on Podio.

Team Members / Interns

All the startups team members are supposed to register at Podio. However, these team members have very little interaction in the system, and are therefore not considered a key stakeholder, and have therefore been delimited from this research.

Researchers

Researchers has also been identified as stakeholder by the General Manager, as they could be interested in the data gathered on the startups. However, this stakeholder is not relevant until data is available, why it is delimited from this thesis.

7. Management Information Systems in Other Student Incubators

To find out why Management Information Systems (MIS) are important in a student incubator environment, as well as to understand how other student incubators design and use MIS, a brief study with interviews from the General Manager at SUND Innovation Hub located at University of Copenhagen and the project coordinator at Studentervæksthus Aarhus located at Aarhus University has been conducted.

The General Manager at SUND Innovation Hub and Project Coordinator at Studentervæksthus Aarhus was interviewed about, which IT systems they are using for management, why these were chosen, what problems and challenges they face, and what features and functions they will benefit from in the future.

The study will only highlight the relevant findings, and will therefore not be an in-depth description.

Interview guides and transcriptions can be found in appendix.

7.1 Findings

Understanding the two student incubators' choice of IT system(s) first require an understanding of the jobs and tasks, they need to perform. In general, both SUND Innovation Hub and Studentervæksthus Aarhus are rather similar; they need to register, manage and get an overview of the respective startups in their incubator, collect data for statistics, and communicate to the startups (SIH, 2016: 6,12, 2; SVAA, 2016: 7,9, 13).

For managing the startups time at the student incubator as well as to collect data, both SUND Innovation Hub and Studentervæksthus Aarhus use Microsoft Excel. The reason for choosing Excel is, as explained by SVAA (2016: 19), partly due to its simplicity: "Excel is the first that comes to mind, and is just easy to set up", which SIH also agrees in: "You just know your basis-systems, and then there is the reliability with Excel" (2016: 48). However, even though Excel is simple to set up and reliable, it also leads to different issues. For Studentervæksthus Aarhus the main issues with Excel is that only one person can work in it at a time; that a large amount of data in different columns and folders makes it confusing; and that you have to use excel functions to extract data (SVAA, 2016: 11, 17, 27). Due to the small size of the incubator (one full time employee, and 20 student startups), SUND Innovation Hub do not face the same problems with Excel, but instead face problems with communication.

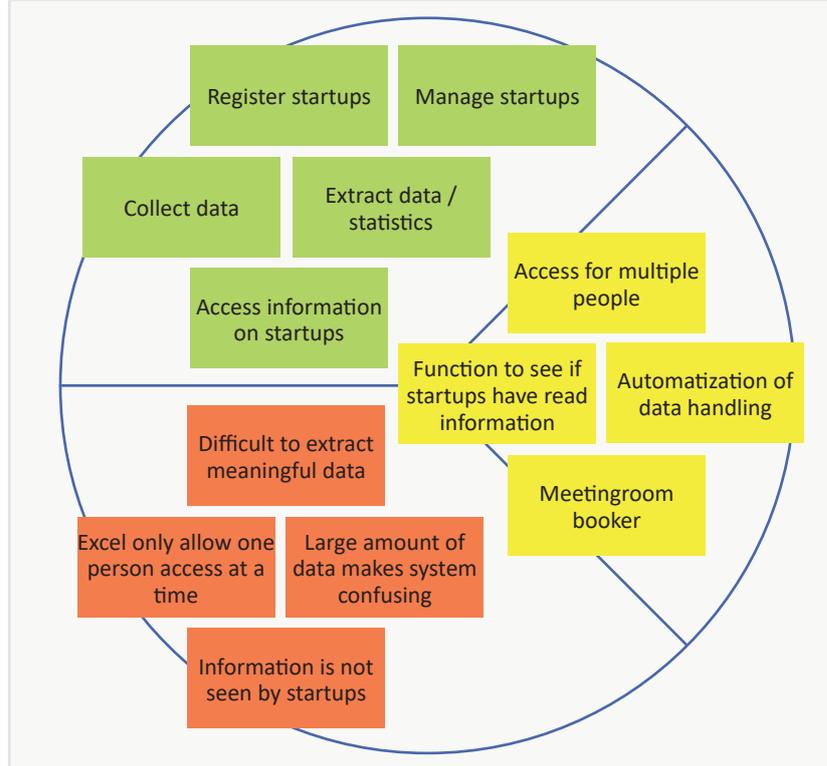
For communication with the startups, both student incubators have tried different solutions. But even though they use either Slack or Facebook for every day communication, they both fall back using e-mails when it comes to direct communication, or important information. The main issue with their communication is, that they are not sure, if the startups read and understand the information as explained by SIH, "That is the big problem in my opinion; that we are not on the same page (with communication, red.), [...] and it is a problem for all the incubators I know" (2016, 37). As both incubators find issues with their current solutions, and acknowledge

that Excel was chosen due to lack of knowledge and resources, it is interesting to get a deeper understanding of exactly what features and functions they would benefit from, if using another system.

The two interviewees mention four specific features, that would benefit their daily work (SIH, 2016: 24, 25, 30, 37, 59, 63; SVAA, 2016: 19, 21, 31, 43):

- Access for multiple employees
- automatization for data collection / extraction
- meeting room booker
- Easy and direct communication with startups.

Figure 3 | Customer Segment, Student Incubators



A visual overview of the two student incubators problems and needs is presented in figure 3.

KEY LEARNINGS FROM THE STUDY OF TWO STUDENT INCUBATORS

To understand how other student incubators' handle the management and tracking of startups, a small study based on interviews with managers from two student incubators has been conducted. The findings show that, due to a lack of knowledge, neither of the student incubators have a specific focus on IT. It is important to note, however, that they also do not prioritize resources toward IT. Because of this, both student incubators mainly use Excel, as they find this solution simple and easy to use. The issue with Excel, however, is that it only allows access for one employee at a time, and further, tend to become messy when a lot of data is registered. On the other hand, the main gains for the student incubators, is automatization, to ease the management, and easier ways of communicating.

KEY POINTS

- Information Technology is not a focus for the Student Incubators.
- The student incubators lack both resources and knowledge to focus on IT
- The student incubators rely on Excel, as this is simple and easy to use.
- The student incubators find it difficult to store and organize large data

8. Identifying the Problem

The following chapter will analyze Podio with the aim to understand if Podio is a success or failure – or somewhere in between – for Copenhagen School of Entrepreneurship (CSE).

The analysis of Podio will be based on the DeLone & McLean IS Success Model (2003) presented in the theoretical framework. By using this model, it is possible to understand the users' perception of the different dimensions in the system, and further discuss how these dimensions influence each other and the success of the system. Podio is a cloud-based collaboration service that offers a platform for organizing team communication, business processes, data and content in a project management workspace. Podio is highly flexible and give the users the opportunity to define the full structure of content, reports and overview. In this way, organizations can customize Podio to fit their needs, and easily add more functionality if needed.

8.1 Success of Podio

In the following, each dimension from DeLone & McLean's IS Success Model will be analyzed. This to understand how it affect the other dimensions it is connected to and the system. The analysis will be based on interviews with the key stakeholders, and will result in a system-specific model, based on DeLone & McLean, that illustrates how the users perceive Podio.

8.1.1 System Quality

Following the interviews, it immediately became clear that the majority of the users perceive the System Quality of Podio to be low. The perceived low system quality is the result of experienced low usability and long response time. In short, the majority of the users find, that the system is not user friendly, looks plain and boring, has functions that do not work, is messy, and do not have a clear path to find information (Employee 2, 2016: 38,21; Employee 3, 2016: 46, 48; General Manager, 2016: 15).

However, an interesting – and important - factor is, that all interviewed CSE employees, as well as the General Manager, when asked more directly, instantly referred to other cases, where Podio worked and eased the job or process. Furthermore, these stakeholders can highlight strengths of Podio, that is directly related to the system quality:

I have seen it work for some companies, and there it worked just fine. (Employee 3, 2016: 30)

I see the largest advantages (with podio, red.), when we have projects with companies or other universities. [...] I felt that it (Podio, red.) worked really well in 2012/2013, when we were running projects with other universities over four years. It was nice to have an overall base. (General Manager, 2016: 21)

[...] Even though it actually could have benefitted our work a lot, if we have used Podio as a common platform for file-sharing, CRM system and stuff like that. (Employee 2, 2016: 25)

The majority of the stakeholders know, that the system quality is good, but do not experience it themselves. The good system quality is also mentioned multiple times by Employee 1:

I would say that it works, and I think it is really stable, which, when it comes to IT-systems and software, is a great asset; that it works and that it is the same every day. (Employee 1, 2016: 28)

What I am most satisfied with is the stability, and that it is relatively simple to use, when you have learned to use it of course. (Employee 1, 2016: 30)

8.1.2 Information Quality

The interviews revealed that the stakeholders find the information Quality on Podio to be low. This as the information on Podio is hard to find, divided into different workspaces, incomplete, not updated, messy and difficult to understand and use (Employee 1 2016: 22; General Manager, 2016: 11, 27; Employee 2, 2016: 13, 34, 43; Employee 3, 2016: 20, 26, 42, 46). This leads to the identification of two main factors responsible for the low information quality: The information is relatively difficult to find, and most of the information is incomplete.

These two factors are for described by Employee 3, “You are spending too much time on looking for things, and when you finally find it, then it is just not updated, because someone else have not had the opportunity or have forgotten to do so” (2016: 45). The same experience is shared by Employee 2, “There is clearly a lack of information. The profiles are not updated. So, it is a really big problem that you can’t see who is working on the different teams”, “[...] and often you have to go through multiple steps to find the information” (2016: 34 & 38).

8.1.3 Service Quality

The interviewees experience a low Service Quality as there is minor or no caring and attention for the users, no or minor prompt service, and no employees within the organization with the knowledge to support the stakeholders. Multiple times, the users mention that they lack education in Podio, that they get no information on how they can use Podio, and that no employees are taking the responsibility to follow up when new functions or features are created (Employee 2, 2016: 23, 25, 39; Employee 3, 2016: 32, 61; Employee 1, 2016: 26). The Service Quality can therefore be seen as poor.

8.1.4 Use / Intention to Use

As Podio works as both the intranet and the Management Information System for Copenhagen School of Entrepreneurship, all the stakeholders are using Podio more or less on a daily basis. Only exception for this is Founder 1 (2017: 2), that has directed all notifications from Podio to be sent to his personal e-mail account. This means that he rarely login to Podio, but still is made aware of all information shared on Podio, why it can be argued that some functionality is still used daily.

The use also differs from the stakeholders with the least intensions to use it as Founder 1 (2017), Founder 2 (2017) and General Manager (2016), to users with the highest intension to use it, as Employee 1 (2016) and Employee 2 (2016).

As part of their daily use, the users add / update information, book meeting rooms, find information, create reports, share news / information, and use the system to get an overview of the startups at CSE (Employee 2, 2016: 6, 8; Employee 3, 2016: 12; Employee 1, 2016: 12; General Manager, 2016: 5, 9; Founder 2, 2017: 2).

One could argue that, due to their daily use, the stakeholders must find the system relevant. However, the users do not specifically find Podio relevant, but instead find the use of an intranet and a Management Information System to handle the information relevant. When asked about the relevancy, Employee 3 states, "It is the information that is relevant, not Podio" (2016: 18). Employee 1 (2016: 14) share the same opinion, "Well, I think that some tool like Podio is really important."

Even though the stakeholders use the system daily, and find its use relevant, they all state that they only use a small part of Podio's full functionality. When asked how much of Podio's full functionalities they think they are using, both Employee 2 (2016: 19), and Employee 3 (2016: 14) explain that they think it is less than half, while Employee 1 (2016: 16) states: "I know, that I do not know that much about it. Understood in the way that I know we can use Podio for much more than we do."

8.1.5 User Satisfaction

The general satisfaction of using Podio is highly affected by the stakeholders' feelings towards the system-, information-, and service quality. Some users find no satisfaction in using Podio, as General Manager, "I only use it for one thing, and that is to book meeting rooms, and otherwise I am actually not very fond of Podio. I think it is a big mess" (2016: 9, 15), and Founder 2, "[...] But I really think it is so confusing, and my colleagues think the same, so we have 100% stopped using it for anything else (red. then booking meeting rooms)" (2017: 6). Founder 2 (2017:20), further rank her user satisfaction with Podio as 1 on a scale from 1 to 10.

Other users find more satisfaction in using Podio, but do still doubt Podios functionality and system design. A great example of this is Employee 2 (2016: 45), that describes Podio as a need-to-have tool, but at the same time do not have any specific positive perception of Podio.

8.1.6 Net Benefits

The users should experience different net benefits when using Podio. A clear tendency shows, however, that the general stakeholder's interpretation of Podio, is that they find the net benefits to be minor or not existing. This, as they do not feel that they significantly benefit from their use of Podio, but instead find it to be time consuming and messy, and that Podio lead to more frustration than net benefits.

8.1.7 System Specific IS Success Model

The analysis above give an insight into the stakeholders use of Podio, as well as how the systems quality, and the stakeholders' actions, affect each other. These correlations between the different dimensions, will in the following be described, resulting in a visual model, that illustrates the current state of Podio.

System Quality -> Use / Intention of Use

An interesting finding is that the system quality does not seem to affect the interviewees' use of or intention to use in a negative way. Most of the users does not find Podio user friendly, and state that some functions – especially the booking of meeting rooms – do not work. But, they still use the platform on a daily basis. On the other hand, an increase in the System Quality could lead to more use, and a higher intension for using the system. This, as all the users mention improvements and new functions that would lead to better, and more frequent, use.

System Quality -> User Satisfaction

The System Quality do not have a direct negative or positive effect on the users' satisfaction with Podio. The users find Podio difficult to use, and blame the system, but also indirectly states that this is related to the Information- and Service Quality, and not the system.

Information Quality -> Use / Intention of Use

The information quality has a large and negative effect of the use and/or intention of use, as the users find the information hard to find, divided into different workspaces, incomplete, not updated, messy and difficult to understand and us. The consequences of this is, that the users do not use the system the way they first intended, and in worst case find a solution outside the system. Employee 2 expresses,

Their profiles have either not been updated, or there has not been any profile on the founders, so we have not been able to get in contact with them, and have been forced to go through facebook, linkedin or Krak to find contact information on them. (2016: 29)

Information Quality -> User Satisfaction

In general, the interviewees' find the information quality on Podio to be low, which results in a low user satisfaction with the system. The information quality has a negative effect on the user satisfaction, and is a result of a messy system, where the users do not know where to find the right information, and experience incomplete information.

Service Quality -> Use / Intention of Use

It can be argued whether the low service quality have a negative impact on the use / intention of use or not. The users know, that they can use Podio for much more if they had a better service quality, but at the same time, they succeed in performing almost every job. In short, the service quality does not affect the use / intention of use in a negative way, but a better service quality would significantly improve the use / intention of use.

Service Quality -> User Satisfaction

Even though the service quality is not significantly affecting the use of the system, it has a negative impact on the user satisfaction. This, as the users feel that they do not know, how to use Podio and that they need more education. Without the right knowledge, the users find it challenging to complete their tasks, which lead to frustration and a low user satisfaction with the system.

Use / Intention of Use -> User Satisfaction

The tendency is that the users use / intention of use is giving a negative user satisfaction with Podio. The users must use Podio for specific tasks, but often experience challenges and frustrations, when they try to handle these tasks. These challenges and frustrations linked to the use of Podio, gives a general negative user satisfaction.

User Satisfaction -> Use / Intention of Use

The general low user satisfaction also has a negative impact on the use / intention of use. As the majority of the users find no satisfaction in using Podio, they tend to use it as little as possible. However, since the users' daily tasks involve the use of Podio, the user satisfactions effect on the use / intention of use is minor for the majority of the users. One the other hand, a higher user satisfaction could increase the use / intension to use significantly.

Use / Intention of Use -> Net Benefits

The users should benefit from using Podio, but for most the interviewees, the use of Podio does not create the expected net benefits. This seems to be due to the lack of functionality and the messy structure, which creates more difficulties than benefits, when using the system. An interesting finding is though, that the more the user use Podio, the higher Net Benefits seems to occur.

User Satisfaction -> Net Benefits

The low user satisfaction with Podio has a negative impact on the net benefits. Some Net Benefits actually occur for the users - when they find the right information or book a meeting room - but the stakeholders are less likely to see them due to the little satisfaction.

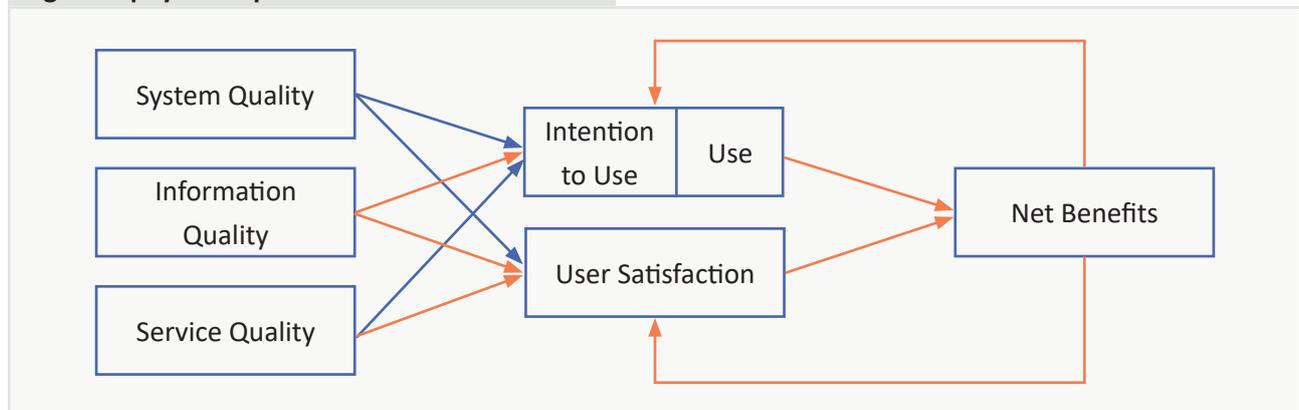
Net Benefits -> Use / Intention of Use

The more Net Benefits the users get from using the system, the more they use it. However, for most of the stakeholders, the net benefits are limited, why their use, or intention of use, is rather low. The Net Benefits therefore have a negative impact on the use and intention of use.

Net Benefits -> User Satisfaction

The low or missing net benefits experienced by the users have a negative effect on the user satisfaction; the users do not feel they benefit from using Podio, why they do not feel any satisfaction from using it.

Figure 4 | System specific IS Success Model



The blue and red arrows show how each dimension is affecting the system. A blue arrow illustrates a correlation with no direct influence, while a red arrow illustrates a correlation with a negative impact. The system specific model gives a clear overview to the root the stakeholders' frustrations; a low information quality and service quality, that highly affect the use and perception of Podio.

8.2 Why?

As the model above illustrates, the stakeholders find poor usage of Podio, mainly due to the low information quality. Furthermore, the use of Podio results in a negative user satisfaction, giving less intention to use, and only a few visible net benefits. As the system specific model visualize, the problem seems to stem from the low information quality and low user satisfaction, and could therefore be classified and solved mainly as a technical problem. However, as Ries (2010) explain, a technical problems can often occur because of human actions. Therefore, it is important to understand why the stakeholders have a low satisfaction and experience a low information quality, before taking actions to solve the problem.

Based on the Five Why's approach (Ries, 2010) introduced in the theoretical framework, the underlying causes will be investigated, starting with understanding why the user satisfaction is low.

Why is the user satisfaction low?

Most the stakeholders do not know where to find the right information or functions, feel that a lot of information is divided, feel that the system is not build for them, and often end up with incomplete data and information when performing their jobs. All the above makes the system cumbersome to use, which results in the negative user satisfaction, leading to less intention of using the system.

Why do the users find Podio to be cumbersome to use?

The main reason for why the users find Podio to be cumbersome to use, is their perception that Podio is – or

have become - a messy management information system. The stakeholders do not see a clear path in their navigation, find a lot of workspaces that are not updated, and find that the important information they share, disappear in a pile of posts from other stakeholders.

This is explained by Employee 3 (2016: 20): “I think it’s very convoluted in the workspaces, because it is so divided with information”, and by Employee 2 (2016: 38): “There are a lot of things you don’t really know how to navigate around in, and we have a lot of old work spaces, that I don’t know what to do with”.

Why is the system messy?

That the system has become messy over time is a result of one of Podio’s core functionalities - that you can build it just like you want to. This has given the CSE employees the opportunity to build their own specific system on Podio, as described by the General Manager,

I think it is characterized by, that is has been hand held, and that there has been one person who has been thinking some logic into it. Then there is another one who has taken over and then built their own logic. Then there might be some lists that have been re-written with new information, as there was no room for more items in the old list. General Manager (2016: 11)

This indicates that the reason for the messy system is, that there has been no defined system structure for Podio, resulting in individual changes, and different workspaces with divided information.

Why is there no defined system structure?

The lack of a defined structure seems to be a consequence of limited knowledge in how to structure and use Podio for its full potential. This limited knowledge, is also the reason, why both SUNDHUB and Studenter-væksthus Aarhus have chosen the most basic solution; Excel.

Without the right education and knowledge, the users have just been let loose in Podio, resulting in information stored in different ways in different places, and tables and workspaces, that overlap each other.

The underlying reason for the low information quality, as well as the low user satisfaction, have been identified to be a consequence of no education to the users for how to properly store and structure data, as well as no clear strategy for the general use of Podio. The stakeholders’ main frustrations with Podio, can therefore, be identified as a human problem, and not a technical problem.

Further, as the user satisfaction and use of Podio, in this case, highly affect the information quality, it can be proposed, that the DeLone and McLean IS Success Model should add an arrow from use / intention to use and user satisfaction, as these, in this case, highly affect the information quality.

KEY LEARNINGS FROM THE PROBLEM

The use of the DeLone and McLean IS Success Model, as well as applying the Five Why's have given important insight into the stakeholders' interpretation and use of Podio. The stakeholders find little intention to use Podio, and further have a low user satisfaction. This however, is not a consequence of Podio's functionality or its system quality, but is a direct result of the low information quality; the information is unorganized and often incomplete. This low information quality stems from missing education and knowledge of how to use the system, as well as a lacking strategy.

KEY POINTS

- Most of the users experience frustrations when using Podio
- The frustrations occur due to unstructured and incomplete data
- The most frequent users of Podio have a significant higher satisfaction than the least frequent users.

9. Finding the best solution

As introduced in the theoretical framework, understanding the customer start by mapping a hypothetical customer profile with a list of expected jobs, gains, and pains, and further rank these into order of importance. This to prepare customer interviews and tests regarding the assumptions about the customers jobs, pains and gains (Osterwalder et. al, 2014: 18). The hypothetical customer profiles will be mapped based on current knowledge, observations, and assumptions. Afterwards, the real customer profile will be mapped based on insight from interviews.

9.1 Customer Profiles

The following three sections will identify and describe the customer profiles for the three key stakeholders: CSE Employees, General Manager, and Founders.

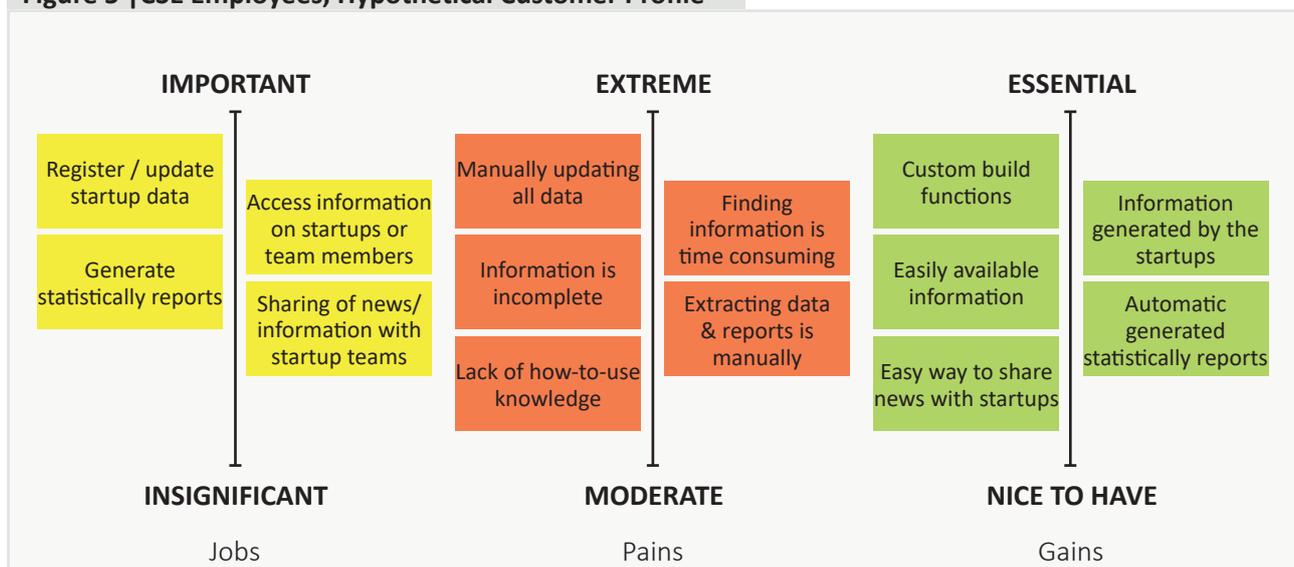
9.1.1 CSE Employees

As part of their work, the CSE Business developer and staff uses Podio daily to manage the information generated by the startups and CSE; whether this is raw data, sharing of knowledge, or sharing of news.

9.1.1.1 Hypothetical Customer Profile

To have a general understanding of the CSE Employees, as well as their jobs, pains and gains, a hypothetical customer profile is created. The hypothetical jobs, pains and gains is identified based on informal knowledge and observations, current access to Podio, as well as documentation from GroupM (GroupM - 2). The hypothetical customer profile will be used as the basis for conducting the interviews, to give a better approach to fully understand the stakeholder. The hypothetical customer profile consists of four jobs, five pains and five gains, that is ranked and described below.

Figure 5 | CSE Employees, Hypothetical Customer Profile



Jobs

Podio currently functions as the Management Information System and intranet for CSE, which lead to the identification of four hypothetical jobs. All four jobs relate to the management of the Proof Program or sharing of information between CSE and the startups. Registration and continuously updating of the startups data is assumed to be the most important task. These tasks are necessary to give the system any value, and is further expected to be performed daily. Accessing this data and information is further seen as the second most important job; It is the core of system and is assumed to be the base for decision-making. Another important job is assumed to be the generation of statistically reports, which is based on the data entered in the system; this job is important, but infrequent.

Finally, the CSE Employees last job is assumed to be communication with the startups, in terms of sharing news and information. Ensuring that the startups are updated on important news, events and offers is, of course, necessary, but is not seen as important as the other three jobs.

Pains

As part of the employee's jobs related to Podio, five hypothetical pains have been identified. The four most extreme pains are related to the CSE employees use of Podio, and the most moderate is related to their knowledge on how to use Podio. The most extreme pain is assumed to be, that all information must be manually updated; it might take too much time and too many resources to keep all information updated.

This issue with time and resources is also related to the second and third most extreme hypothetical pain; that it takes too much time to find the right information, and that the information found is incomplete.

The manual aspect of Podio, is also assumed to make the extraction of data and generation of statistically reports a pain, but less extreme. Finally, the lack of knowledge on how to use Podio is assumed to be another pain; but the most moderate. One can argue that not knowing how to use the system should be an extreme pain. But the lack of knowledge is not assumed to have any influence on, whether they can perform their jobs, but only affect the way they perform them.

Gains

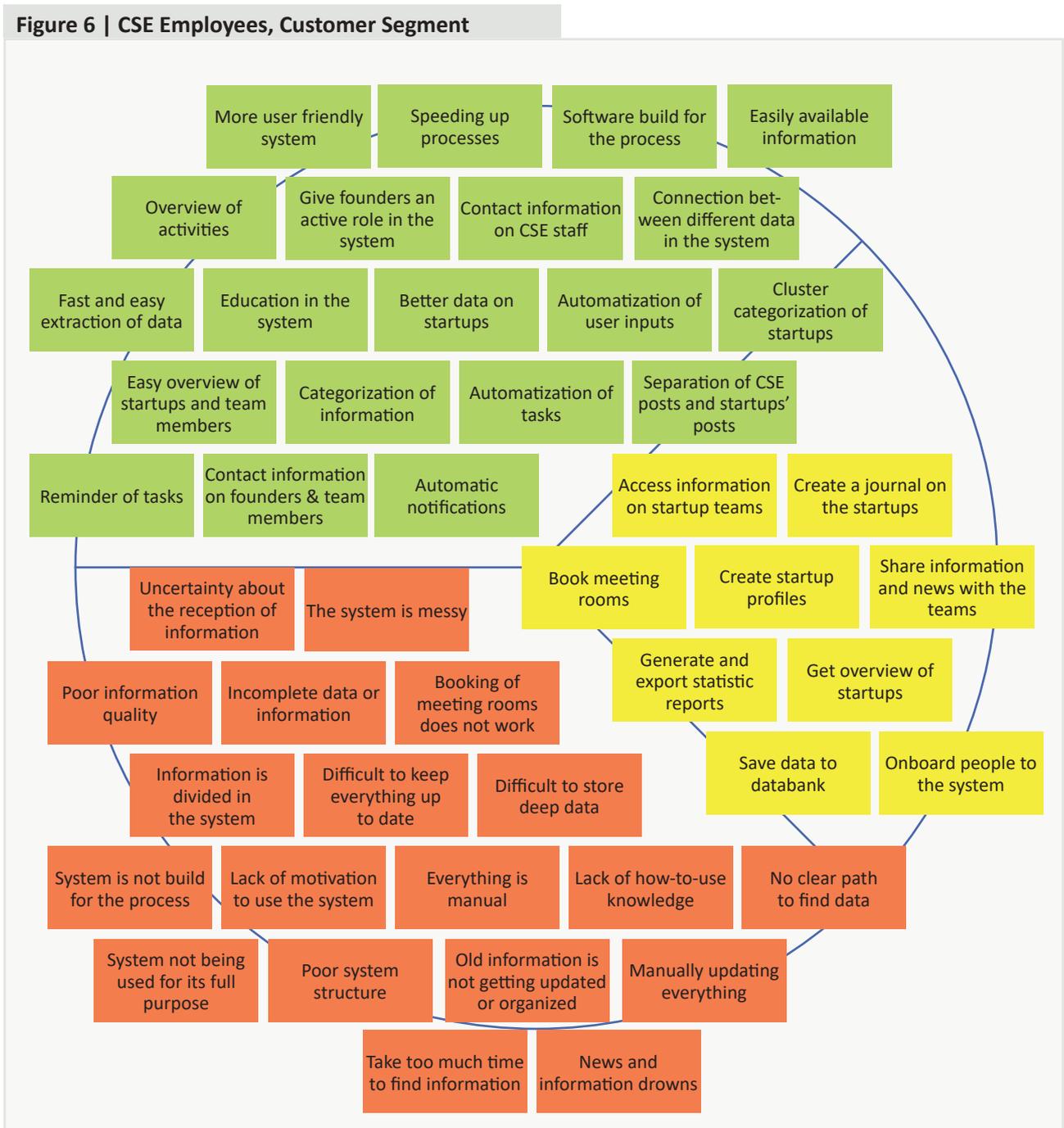
For the CSE employees, it is assumed that their most essential gain is to get a set of functions specific designed to support and ease their management of the startups at CSE, as this would make their job more effective and painless. Another way to make their job easier, is if more of the data and information is entered by the startups themselves. This would, for the CSE Employees automatize a number of tasks, and is therefore assumed to be the second most essential gain. Third, as the CSE Employees must access information on the startups, it is expected that they want easier access to this information, and further, a more automatic way of turning this data into statistically reports.

The last hypothetical gain, and least essential, is an easier way for the CSE employees to share news and information with the startups. Even though they already have this opportunity, it is expected that an easier way will be nice to have.

9.1.1.2 Mapped Customer Profile

With the hypothetical understanding of the CSE Employees customer profile as the basis, interviews with three CSE employees, that use Podio on a regular basis have been conducted. The interviews all lasted between 20 and 25 minutes, and were based on the same interview guide; to reveal the jobs, pains and gains experienced in their daily work.

A total of nine jobs, 20 gains, and 21 pains have been identified. The 50 jobs, pains and gains have subsequent been mapped and grouped into five jobs, five pains and seven gains.



Jobs, CSE Employees

The nine jobs have been mapped and group into five jobs. The five jobs are in the following described and ranked based on, how important they are for the CSE Employees.

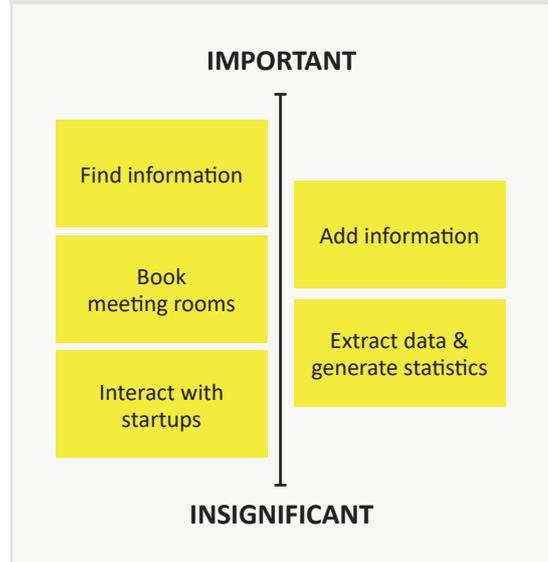
Table 2 CSE Employees, jobs	
Find information	The stakeholder use Podio to access information like contact details, journal on startups, news and overview of startups.
Book meeting rooms	As part of their job, the CSE Employees books meeting rooms to host meetings with startups, each other or external partners.
Add information	A large part of the stakeholders’ job is to add information – data and communication – to the system.
Interact with startups	A minor – but important – job is the interaction with the startups. This interaction happens when new founders are invited to the platform, or when two-way communication on the platform occur.
Extract data & generate statistics	An infrequent job is to extract data and generate statistically reports. This job is performed, when demanded from the General Manager og the Top Management at CBS.

The most important job for the stakeholder is to find and access information on the startups, followed by adding information to the system. These two jobs are the most performed, and are crucial to run the organization. Further, all the employees also book meeting rooms on a regular basis, why this is another highly ranked job.

Occasionally, the CBS management needs statistics on the CSE startups. Generating these statistics is, of course, an important part of their job, but is not something that is done on a daily basis, why the job is only ranked as the fifth most important.

Last, the interaction with the startups, is ranked as the most insignificant job. Onboarding new startups to Podio is important, but the job only affect one employee, and doesn’t seem to have a high priority for the staff.

Figure 7 | Ranking of Jobs, CSE Employees



Pains, CSE Employees

The 21 pains have been grouped into the following five pains, that is described and ranked based on how extreme they occur for the CSE Employees.

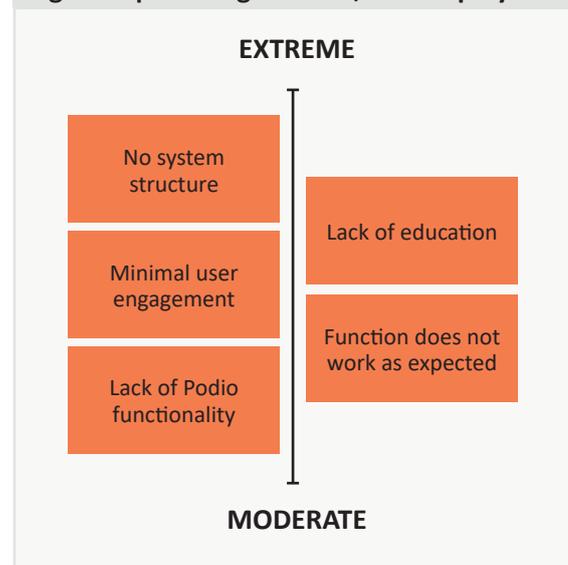
Table 3 | CSE Employees, jobs

Function does not work as expected	The users see it as rather problematic that the function “book a meeting room” does not work as expected.
Lack of Podio functionality	The users find it problematic, that Podio doesn’t support one or more key functionalities related to the proof process. This is i.e. automatization of tasks.
Lack of education	A large pain for the users is that they do not know how to use Podio, and therefore find it difficult to use.
Minimal user engagement	Lack of engagement of other users results in incomplete data and data that has not been updated.
No system structure	The users find it problematic that there is no clear system structure, which results in divided information that is difficult to find

The most extreme pains are the lack of a system structure. Most the users find Podio to be messy and without a clear structure, which leads to drowning news, divided information, and general pains regarding finding information. Second, the lack of education results in customer experiences where they do not know, how to use the system, and therefore find the system more or less useless. The minimal user engagement results in incomplete and outdated data, resulting in jobs, that cannot be finished within the system.

Finally, the problem with the booking of meeting rooms, and the lack of Podio functionality is seen as the most moderate pains for this segment. That the booking of a meeting rooms does not work is annoying, but they still manage to book meeting rooms, and the lack of functionalities like automatization of data input and automatization of statistically reports is nice to have for the users, but not a need to have.

Figure 8 | Ranking of Pains, CSE Employees



Gains, CSE Employees

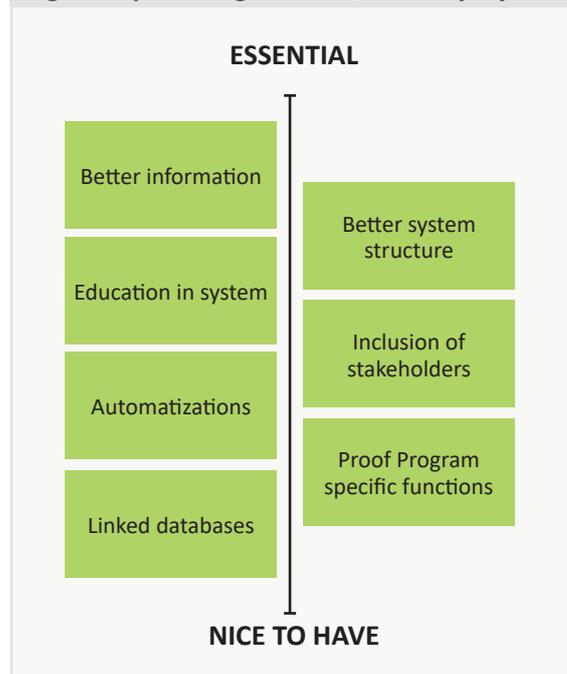
The 21 gains identified based on the interviews have been grouped into seven gains. The seven gains will in the following be described and ranked based on how essential they are for the CSE Employees.

Table 4 | CSE Employees, Gains

Automatization of jobs	As of now, all functions in the system is manual. The users want more automatization, so i.e. statistics is calculated automatically, or standard e-mails is sent from the system, instead of from an employee.
Better information	The users wants better information, understood as complete updated information.
Better system structure	A clear system structure will give the users the opportunity to get more benefits from using the system.
Linked databases	The employees desire a way of linking user data and startup data, to give an easier overview of the startups and their teams.
Proof Program specific functions	To support their job even better, the employees desire functions that specifically supports the Proof Program. These are functions like overview of activities, fast and easy extraction of data, and reminder of tasks.
Education in the system	The employees expect to know how to use the system; to perform their jobs without frustration towards the system.
Inclusion of users	To generate better data, and keep contact information etc. updated, the CSE employees wants more inclusion of the other users in the system (Founders, team members, interns, mentors etc).

The most essential, and expected, gain for the CSE Employees is better information. Accessing and using data is the most performed task by the stakeholder why complete information is an important factor for the stakeholder. Ranked second is a better system structure. A better system structure is also expected by the CSE Employees to have a clear path for finding the right information and ease their job. Third, the right education in how to use the system has also been ranked as important for the employees, as they all ask for better education in, how to use the system. To secure a better information quality, and more intention to use the system, the CSE Employees expect a better inclusion of the key stakeholders. This inclusion of other stakeholders, and their inputs, will further allow automatic collecting of information. Automatization of current tasks is yet another gain that the CSE Employees highlight. But, where better information,

Figure 9 | Ranking of Gains, CSE Employees



a better system structure, more education, and inclusion of users are essential to have, automatization and specific functions is nice to have, why they are ranked as the fifth and sixth, and identified as desired gains. Finally, linked databases are identified as the less essential gain. Linked databases will offer better functionality, but with a better system structure and the right education in the system, the linked databases is a feature, that could ease the job, but is not directly necessary, and is therefore a desire that go beyond their expectations.

9.1.2 General Manager

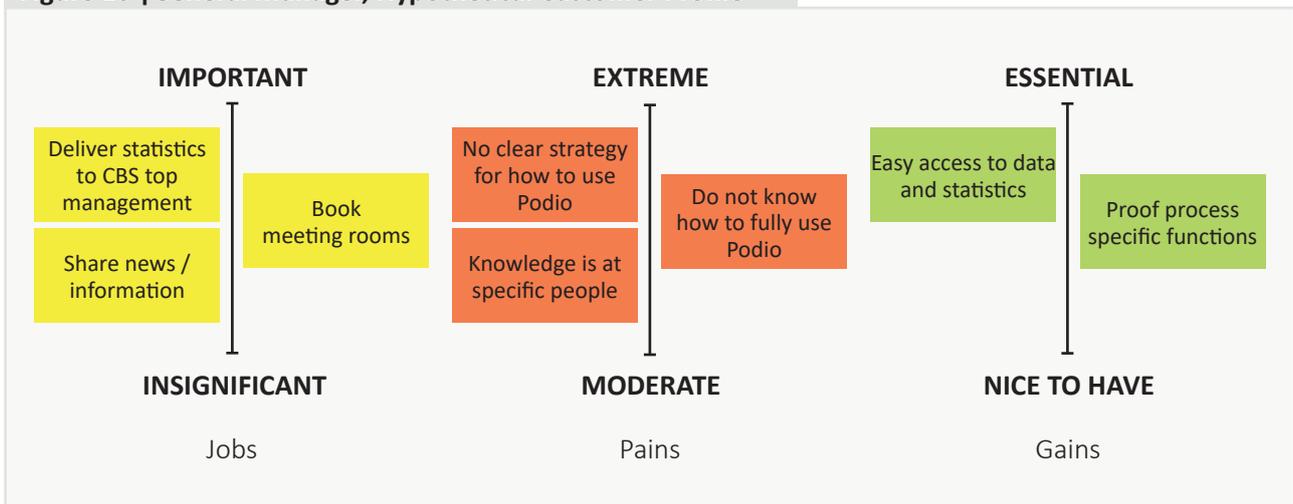
It is the General Managers vision to develop and implement the new proof system. The following section will, starting with a hypothetical customer profile, identify the General Manager’s customer profile as a stakeholder.

9.1.2.1 Hypothetical Customer Profile

Based on informal knowledge and observations, as well as, current access Podio, three hypothetical jobs, three hypothetical pains, and two hypothetical gains have been identified. The hypothetical customer profile give important assumptions about the stakeholder, which will be used to ensure that the interview, cover all important aspects of the General Manager as a key stakeholder.

The hypothetical jobs, pains, and gains is ranked and described in the following section.

Figure 10 | General Manager, Hypothetical Customer Profile



Jobs

As the General Manager on a regular basis must report specific statistics to the Top Management at CBS, it is assumed that extraction of data, and the generation and delivery of statistically reports is the most important job. Second, booking of meeting rooms is assumed to be the second most important job for the CBS management, as this job is expected to be performed on a more regular day to day basis. Finally, the least important job is assumed to be the sharing of news and information on the intranet. This job is ranked as the most insignificant, as most sharing of information is assumed to be handled by CSE Employees, and therefore only in performed by the General Manager occasionally.

Pains

The missing clear strategy for, how to use Podio, is assumed to be the most extreme pain, and create the most troubles and pains regarding the system. Without this strategy and structure, there is no clear path to find the needed information. Second, the lack of education in the system, and knowledge of how to use it for its maximum purpose, is assumed to be yet another extreme pain, but less extreme than the missing clear strategy. Even though the General Managers use of Podio is limited, the lack of knowledge is still assumed to affect her perception of Podio in a negative way, and result in frustration. Finally, the last and most moderate pain is assumed to be, that knowledge in the organization is divided into individuals. By this is meant, that there are no knowledge sharing on the platform, why some stakeholders possess knowledge and information, that is not accessible for others.

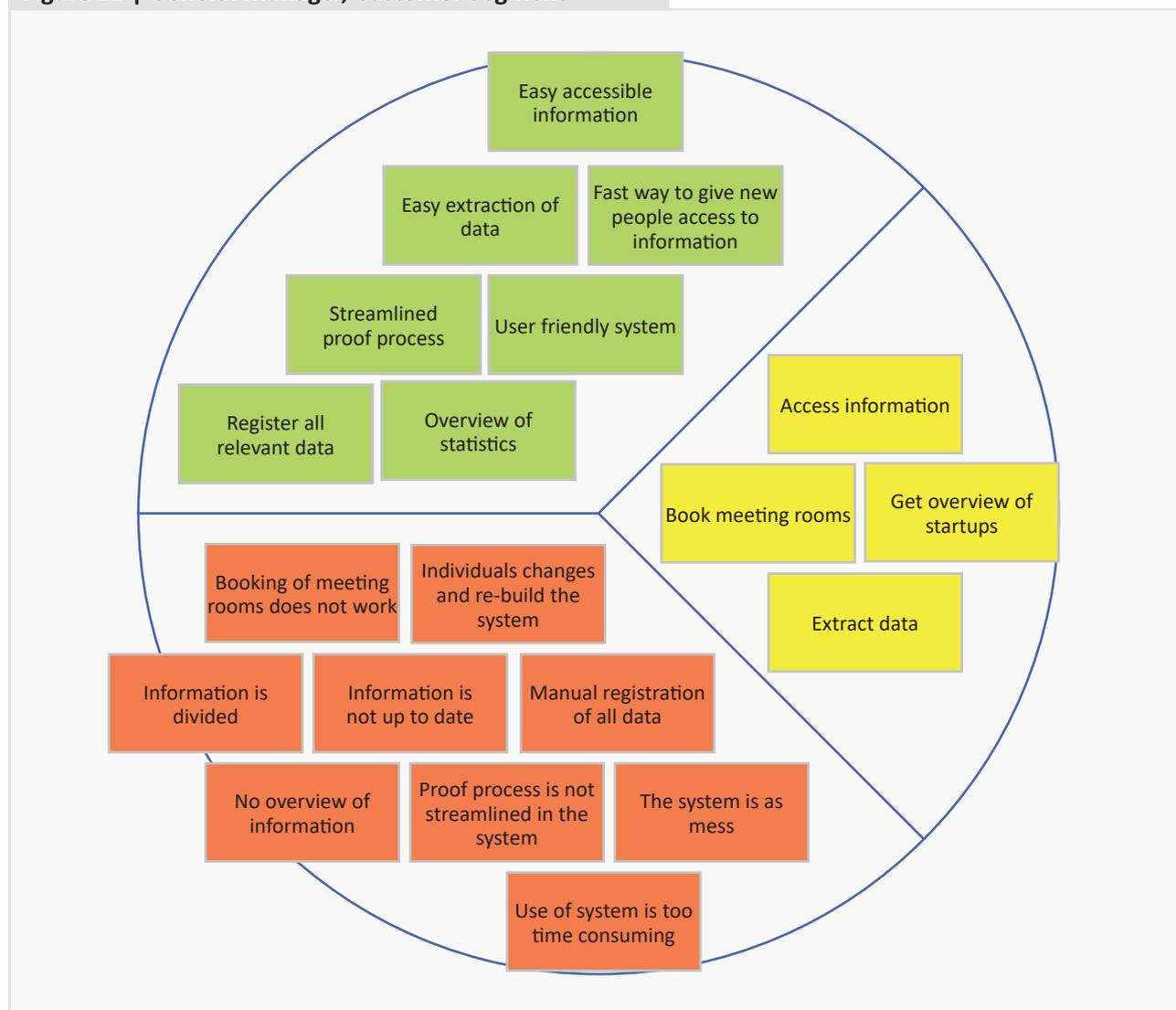
Gains

The General Manager is assumed to have two gains: Easier extraction of data and generation of statistically reports; and functions developed specifically for the Proof Program. Easier extraction of data and generation of statistically reports is seen as the most essential, as this could ease the job, and result in a faster execution, when the CBS top management require these data. Functions specifically designed for the Proof Program could help optimize the process, or support current tasks, but these extra functions are assumed to be nice to have for the General Manager, but not essential.

9.1.2.2 Mapped Customer Profile

To map the actual customer profile, an interview with General Manager at CSE has been conducted. The interview was based on the interview guide found in appendix, and have further been conducted with the general understanding of the hypothetical customer profile as basis.

Figure 11 | General Manager, Customer Segment



Jobs, General Manager

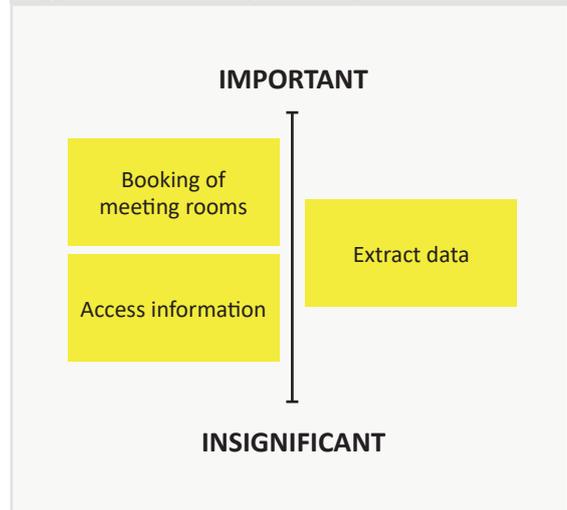
The four jobs identified, have been grouped into three jobs, that is described and ranked based on importance.

Table 5 General Manager, jobs	
Access information	The General Manager use Podio to access data and information on the startups whether this is contact details, specific information or a general overview.
Book meeting rooms	Using Podio to book meeting rooms is one of the most frequent jobs performed by the General Manager.
Extract data	The General Manager is required to deliver statistics on the startups (number of founders, diversity of teams, sex, etc.) to the top management at CBS, why extraction of data and generation of statistics is a job.

Regarding to the General Managers use of Podio, the highest ranked job is to book meeting rooms. This as the General Manager mentioned, that she only uses Podio for one thing, and that is booking of meeting rooms. (General Manager, 2016: 9).

However, even though it is directly mentioned in the interview, that booking of meeting rooms is the only thing she uses Podio for, two further jobs have also been identified as important. Extraction of data and generation of statistically reports must be performed, but is only occasionally, and will most likely be completed with help from an employee, why it is ranked as less important than booking of meeting rooms. Finally, the General Manager also must access information in the system, when required by the CBS Top Management, as part of decision management, or to find information about a specific startup.

Figure 12 | Ranking of Jobs, GM



Pains, General Manager

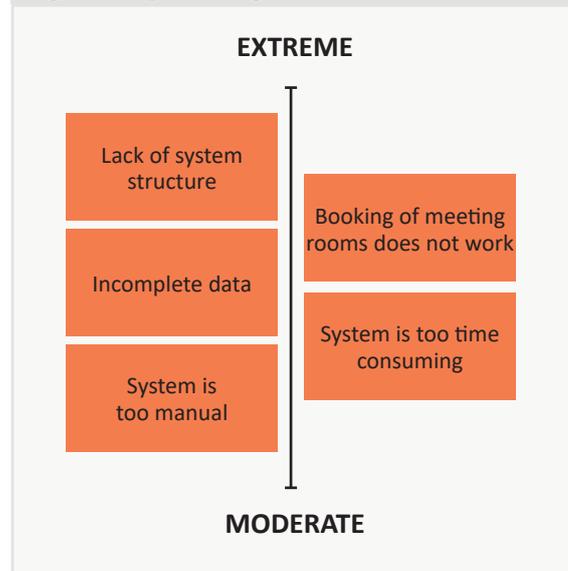
The nine pains identified based on the interviews have been grouped into five pains. The five pains will in the following section be described and ranked based on how extreme, they are to the General Manager.

Table 6 General Manager, pains	
Booking of Meeting rooms does not work	The booking of meeting room function, is functioning bad, which leads to frustration every time the general manager book a meeting room.

Lack of system structure	The lack of a system structure makes it more difficult and time consuming to perform the jobs.
Incomplete data	Often, this customer segment ends up with incomplete data in the system, resulting wrong statistics or jobs that cannot be finished.
Too manual	That all functions are manual, results in poor data and time consuming routine tasks.
Too time consuming	Using the system takes too much time, as there is no clear path.

For the General Manager, the lack of a clear system structure seems to be the most extreme pain, and the reason for, why she wants a new MIS. The missing structure have over time resulted in a messy system with no clear path, and with old functions that was created and used by only a few employees. This has, as mentioned, led to a large frustration for the General Manager. Second, the bad functionality of the book a meeting room function is yet another extreme pain, that highly effect the General Managers motivation for Podio. This lack of motivation – from multiple stakeholders – have over time further resulted in incomplete data with the consequence that some jobs cannot be performed, or takes too many resources. Incomplete data is therefore ranked as the third most extreme pain.

Figure 13 | Ranking of Pains, GM



Finally, the General Manager finds the system to be too manual and, thus, too time consuming. These pains are ranked as the most moderate, as they are annoying for the General Manager, but not directly affect her daily work. These are, however, still seen as a pain for the General Manager, as the manual and time consuming system require more time spend by the employees.

Gains, General Manager

The customer gains identified in the interview, are grouped into three gains, which in the following section will be described and ranked.

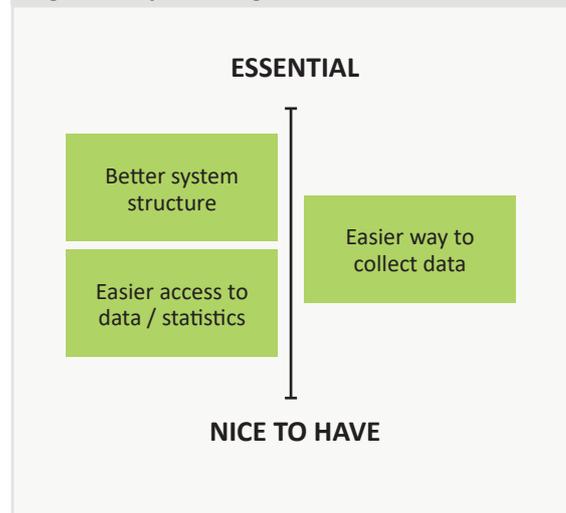
Table 7 | General Manager, gains

Better system structure	A better system structure is a required gain from this customer segment, as a better structure will make it easier to perform the jobs.
Easier way to collect data	A benefit this customer group wants, is an easier way to collect data, as this will lead to better information and better opportunities for creating statistically reports.

**Easier access to data /
statistics**

The general manager wants easier access to data and statistics, to ease the process of generating reports.

The most essential gain for the General Manager is a better system structure, as this will ease the whole process of managing the Proof Program and give a better overview of the startups. Second, an easier way to collect data is the second most essential gain. The General Manager wants to collect as much data as possible, why an easier way to do so is expected. Finally, having easy and quick access to the data and the statistics is more essential than just nice to have, but is ranked less important than a better system structure and an easier way to collect data. This, as the General Manager needs these data and statistics on a regular basis, but is only minor involved in the process of accessing data and generating the statistically reports. Automatic generated statistically reports are therefore beyond, what is expected from the CBS management, but would indeed be nice to have.

Figure 14 | Ranking of Gains, GM

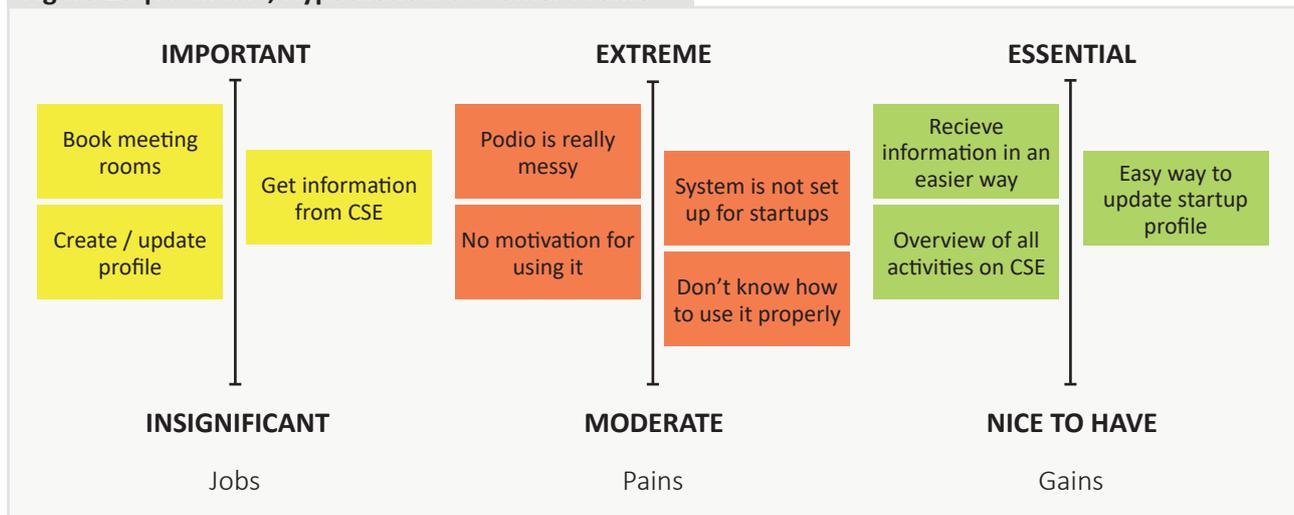
9.1.3 Founders of CSE Startups

The founders of startups at CSE access Podio as the intranet, and primarily use it for communication.

9.1.3.1 Hypothetical Customer Profile

The hypothetical customer profile is based on informal knowledge and observations of, how the founders currently use Podio. The hypothetical customer profile will be used as a basis understanding of the stakeholder, before conducting the interviews. A total of three jobs, four pains and three gains have been identified for the hypothetical customer profile. The jobs, pains and gains is in the following section described and ranked.

Figure 15 | Founders, Hypothetical Customer Profile



Jobs

The founders of the CSE startups are assumed to have three jobs, when using the system. First, they want to book meeting rooms, why this is ranked as the most important job. Booking of meeting rooms is assumed to be the most performed job by the CSE startups, and being the main reason for the users to use the system.

Second, getting information and news from CSE is assumed to be the second most important job. Podio serves as the intranet, where the startups receive information from CSE, and where they can communicate with each other by sharing questions, requests or general information.

Finally, the least important job is assumed to be creating an account and continuously update it.

Pains

The most extreme pain for the startups are assumed to be that Podio is really messy, and that Podio is not built for the startups. The startups only use Podio for a few tasks, and if they find this difficult, their motivation for using it will decrease. The least extreme pain is assumed to be, that the startups do not know how to use Podio, and therefore find it useless.

Gains

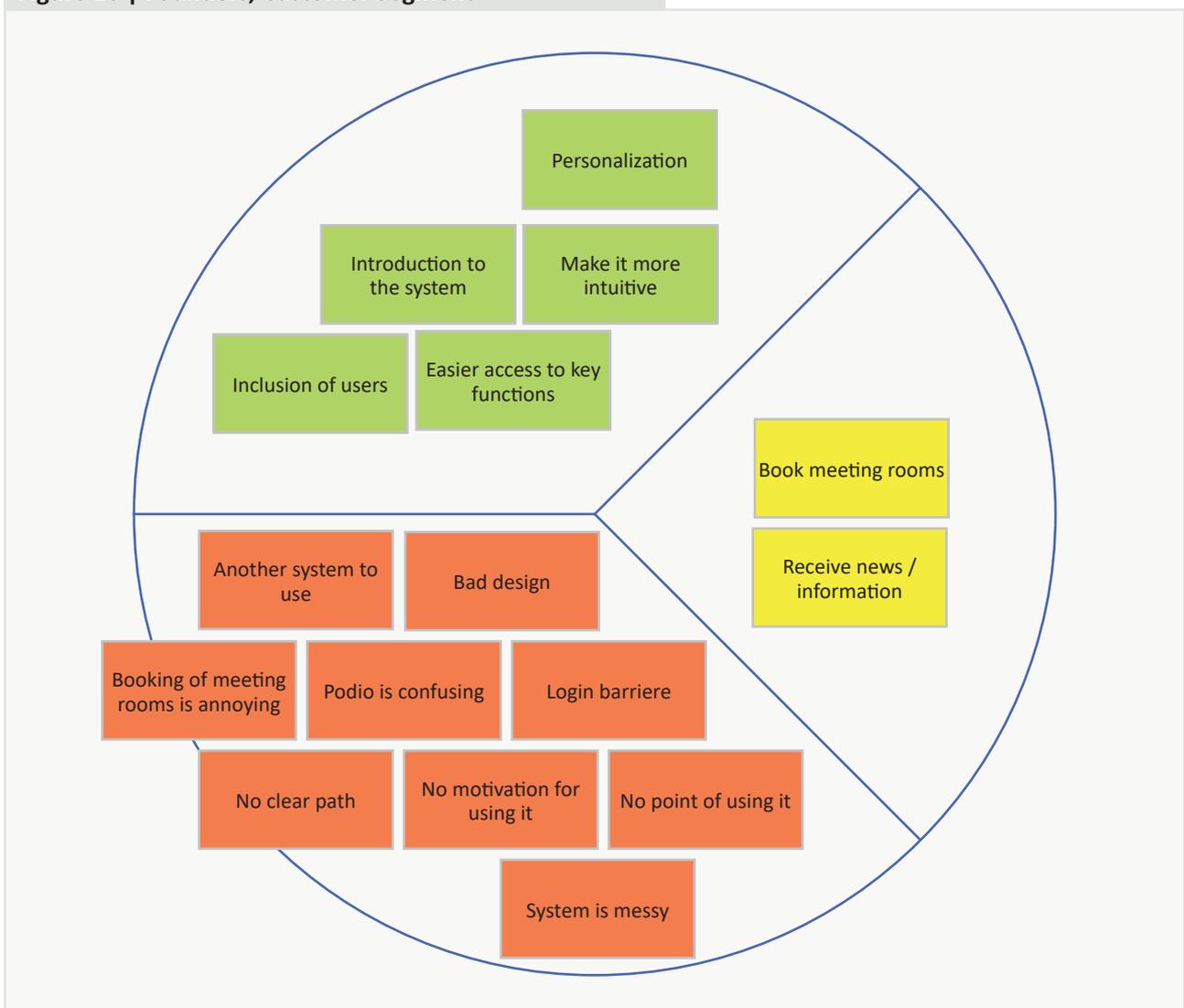
For the startups, Podio is mainly used as an intranet, why they are assumed to have the following tree gains: Get more information in an easier way; have an easy way to update their startup profile; and finally getting an overview of activities at CSE. These three gains will help the startups to better take part, and stay updated, about their stay at CSE.

9.1.3.2 Mapped Customer Profile

To map the founder's customer profile, two founders from different startups have been interviewed. It has been a criterion, that both startups are in their last phase at CSE – this to ensure that the data is valid and strong.

Based on the conducted interviews, two jobs, nine pains and five gains have been identified.

Figure 16 | Founders, Customer Segment



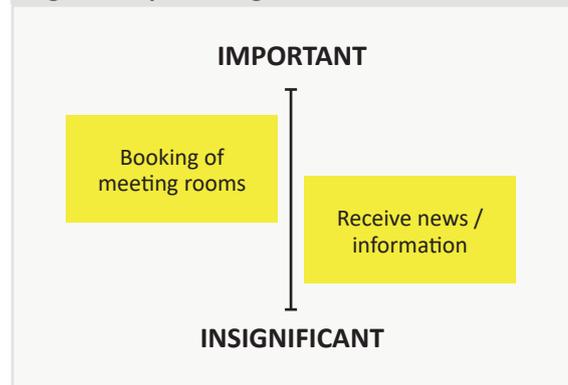
Jobs, Founders

Only two jobs have been identified - which gives an indication that the founders use of Podio is limited.

Table 8 Founders, jobs	
Booking of meeting rooms	The startups use Podio to book meeting rooms for internal meetings or meetings with investors, partners etc.
Receive news / information	The startups use Podio – or e-mail notifications from Podio – to receive news and information from CSE

The most important of the two jobs is the booking of meeting rooms, as this is the main reason for the user to log into Podio. (Founder 1, 2017: 2, 6; Founder 2, 2017: 2).

Figure 17 | Ranking of Jobs, Founders



Pains

The pains identified based on the interviews have been grouped into three pains.

Table 9 Founders, pains	
No value in using the system	The startups find no value in using Podio as part of their stay at CSE. They see it as just another system to use, and have no motivation for logging into the system.
No value in using the system	The startups find it painful that there is no structure in the system; They find it messy, without a clear path, and confusing to use.
Poor design / functionality	The startups find Podio to have poor design and a low functionality as they see Podio a non-intuitive and not pretty.

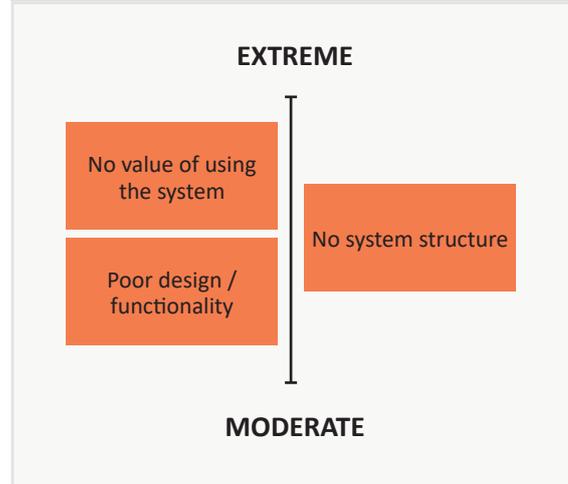
The first, and most extreme is that the founders do not see the value of using Podio; It is another system they must access, but find so little value from using it, that they use it as little as possible. (Founder 1, 2017: 2; Founder 2, 2017: 4, 8).

That the users only find limited value from using Podio is also a consequence of their experience of a missing system structure. Multiple times, the two founders mention, that they do not see a clear path, find Podio inconceivable, and feel that it takes too many steps to accomplish their jobs (Founder 1, 2017: 4; Founder 2,

2017: 20).

Finally, the last, but least extreme, pain is, that the founders find Podio to have poor design and functionality; they simply do not find it intuitive or functional. This is ranked as the least extreme, as it is frustrating for the founders, but do not seem to affect their view on / motivation for Podio, on the same scale as the two other pains

Figure 18 | Ranking of Pains, Founders



Gains

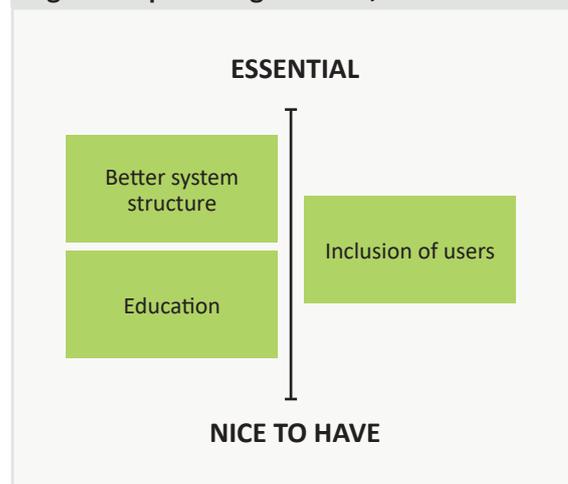
The five customer gains have been grouped into three main gains.

Table 10 | Founders, gains

Better system structure	Just like the rest of the stakeholders, the founders also want a better system structure, to make it easier to find the right functions and perform their job
Inclusion of users	The founders want more inclusion in the system, to feel that they have a role, and also can use it for sharing and communication.
Education	The founders want a better education or introduction on why using the system is important, and how to use it properly.

The most essential gain for the founders is a better structure, which counts both a more intuitive system, and easier access to the key functions. A better system structure is expected by the founders, and will significantly affect their satisfaction with Podio in a positive direction, as well as ease the performance of jobs. Second, the founders desire to be more included in the system, and thereby have a higher intention for use. With more personalization and more functionality, the founders can find Podio more attractive and use it on a more regular basis. Finally, the founders would like a better introduction to the system, how to use it, and the purpose of using it.

Figure 19 | Ranking of Gains, Founders



9.2 Value Proposition Maps

Answering the research question, if it is a good strategic decision for CSE to develop and implement a new MIS, require an understanding of, how beneficial a new system is for the stakeholders, compared to the current solution. To get this understanding, a value proposition for the new systems and for the current solution (Podio), with an updated structure, will be mapped. The value proposition map breaks down the features of a product into what it offers, how it relieves the customers' pains, and how it creates gains for the customer. This map show exactly, how a product create value for the customers.

It is important to note, that the value proposition map for Podio will be based on an updated structured build as a simple prototype, named Podio v2. As the customer profiles are based on the current use of Podio, and the Value Proposition Map are based, on how the product address the customer profile, it is not possible to create a value proposition for the current structure on Podio.

Podio will simply not relieve any pains experienced through using it, or create any of the gains the stakeholders want.

However, it is still relevant to get an understanding of the opportunities for restructuring Podio, to see if Podio, with the right structure and education of stakeholders, can solve the stakeholders' problems. This knowledge is important to include in the consideration about, if a new system is the right decision.

Based on the stakeholders' jobs, insight into the current use of Podio, as well as access to the design manual (GroupM - 1) and the requirements of specifications for the new system (GroupM - 2), it is identified, that the stakeholders require the following three functionalities, to fully perform their jobs:

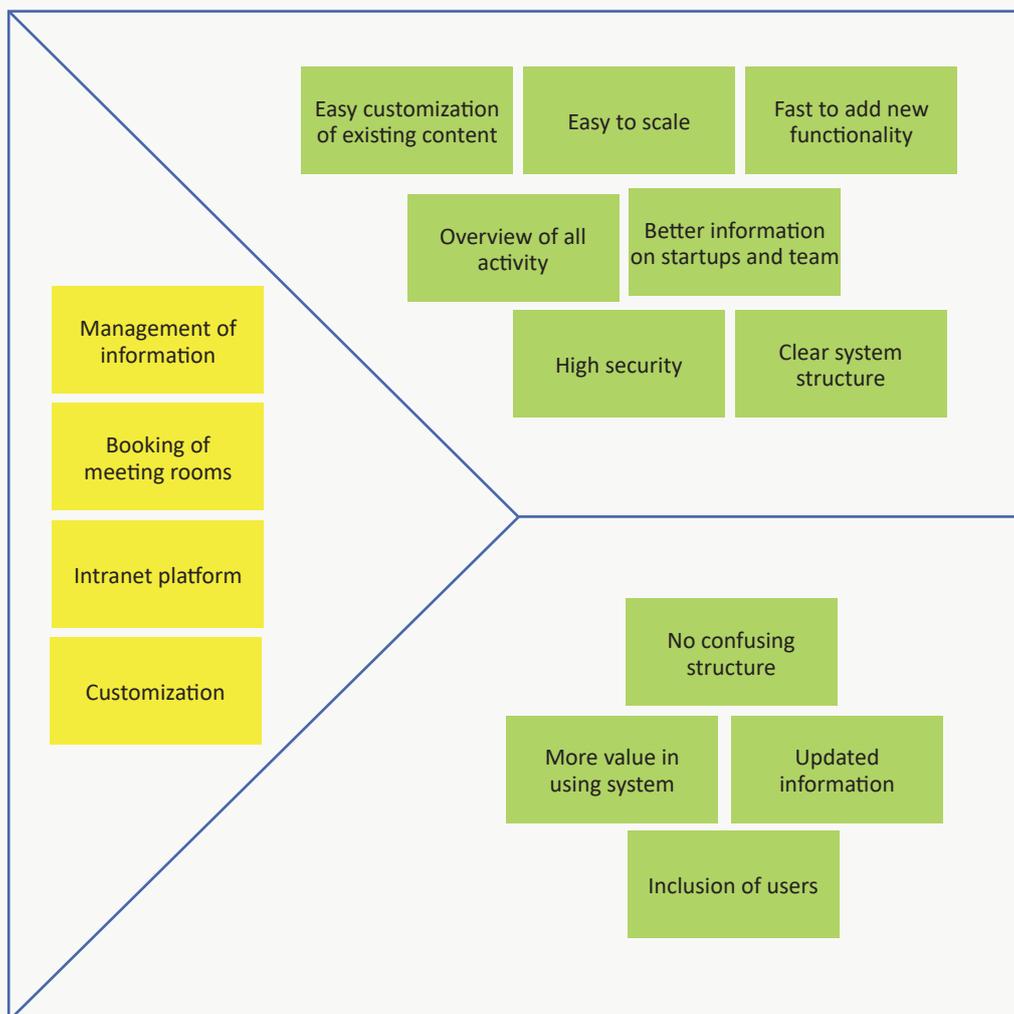
- **Administration**
Managing startups at CSE, booking of meeting rooms; finding contact information
- **Communication**
Sharing news and other important information amongst the stakeholders
- **Management of information**
Collect and extract data; generate statistically reports.

9.2.1 Updated Structure on Podio (Podio v2)

The following section will present the value proposition for an updated structure on Podio. The updated structure is based on the simple prototype identified in empirical method. For simplification, the updated structure on Podio will be classified as Podio v2.

The new structure in Podio v2 will allow CSE to handle both administration, communication and management of information. Based on access to, and knowledge about, the current version of Podio, as well as building the simple prototype, Podio v2 have been identified to offer the following products, gain creators and pain relievers.

Figure 20 | Value Proposition Map, Podio v2



Product and Services

The products and services have been divided into four categories. The first category is defined as Management Information System, and includes all the features, that Podio v2 offer for CSE to manage startups and track data. The second category is defined as booking of meeting rooms, which allow the stakeholders to book meeting rooms. Third, Podio v2 offer a solution for communication and intranet at CSE, which has been categorized together. Finally, the category customization includes all the extra features, that Podio v2 offer, which can be implemented for CSE if needed.

Table 11 | Podio v2, Products and Services

Management of information	Podio v2 offer a wide range of services and features to manage the information at CSE. By creating different workspaces, the staff can control who have access to what, and by offering a wide range of apps, Podio v2 give CSE the opportunity to share files, save data in a spreadsheet layout, keep overview of all startups / users, and use other relevant features.
Booking of meeting rooms	Podio v2 offer the functionality to handle booking of meeting rooms, as well as an overview of the booked meeting rooms.
Intranet platform	Each workspace has an activity stream, which shows changes in the workspace. The activity stream also allows the users to post links, files, information and more. This activity stream is used as the intranet; for people to share information or requests.
Customization	One of Podio's main products and features is that it is highly customizable, which means that workspace-admins easily can create, add, update or remove apps, to change the functionality of the workspace.

Gain Creators

Podio v2 produce seven different categories of outcomes and benefits, that the stakeholders want.

Podio v2's gain creators should address the benefits and outcomes, that the stakeholders expect and want when using Podio. As with products and features, the gains creators have also been categorized.

Table 12 | Podio v2, Gain Creators

Easy customization of existing content	Podio v2 offer quick and easy opportunity to add, change or remove any given fields for data collection. In that way, the staff can with limited resources start gathering news sets of data
Easy to scale	Podio v2 is built for organizations in all sizes, and it is therefore easy for CSE to scale the number of startups and users
Fast to add new functionality	New functionality can easily be incorporated by adding new applications. These applications can either be custom made by CSE, or chosen from a large catalogue of existing apps.
Overview of all activity	As Podio v2 log all activity, it is easy for the employees to follow changes and development over time.
Better information on startups and team	User- and startup profiles will be required to add specific data, to ensure a high information quality.
High security	Podio v2 have a high security and automatically backup data.
Clear system structure	A clear system structure will ensure that the stakeholders easily find needed functionality , and have a clear path to find the right information.

Pain relievers

Podio v2 should have a number of pain relievers, that reduce or eliminate some of the pains the customers experience from using the Podio. The customer pains is characterized by a lack of system structure, minimal engagement of the users, lack of education, problems with the functionality, incomplete data and no value in using the system. Podio v2 have the following pain relievers.

Table 13 | Podio v2, Gain Relievers

No confusing structure	Podio v2 will give an updated and better system structure, which can release the majority of the users' pains.
More value in using system	Podio v2 will give the users more value from using the system, as it will give a clear overview of where to find different data and functions, and give better overview of information.
Updated information	By updating the system, data and information will be organized and updated, and new information will be entered to the system.
Inclusion of users	Podio v2 allow inclusion of the users, as it offer opportunities for communication, sharing of information, and sharing of knowledge.

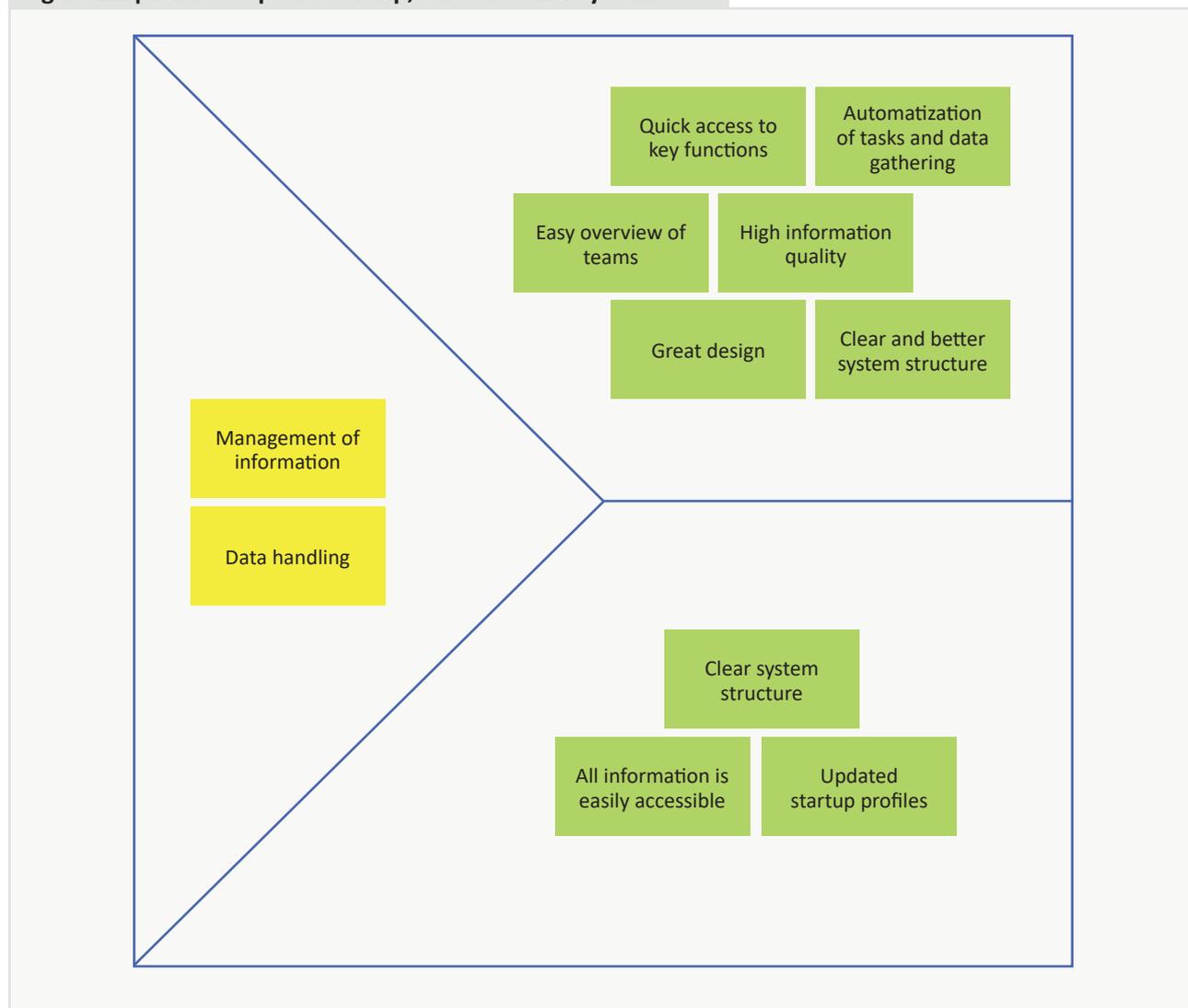
9.2.2 Custom Build System

The following section will describe the value proposition map for the custom build system. The custom build system was originally developed by GroupM, but the contract was, as described in the problem area, cancelled before the system was fully developed. As the development now is internal at CSE, and multiple specifications have been added or modified, the value proposition map for the custom build system will be based on the original specification of requirements, combined with the new and updated ones.

The vision behind developing and implementing a new system, is to combine all current used systems by CSE, and have one access point to CSE for all stakeholders. However, the first versions of the new system will only provide functionality for managing the startups at CSE, as well as collect data. The first versions will, thus, not provide functionality for internal communication between the stakeholders, or for booking of meeting rooms.

The custom build system will have the following Value Proposition Map.

Figure 21 | Value Proposition Map, Custom Build System



Products and Features

The products and features of a new system can be divided into two categories: Management Information System and Data handling. The management of information is highly important for the General Manager and the CSE Employees, as their daily jobs are dependent of this information. Second, the handling of data is also relevant for the General Manager and the CSE Employees, as this is the basis for both internal and external statistically reports.

Table 14 | Custom Build System, Products and Features

Management of information	The system will be built to support the management of information at Copenhagen School of Entrepreneurship, why this will be the main feature of the product. The system will only handle the required functions and task, to secure a clear and strong system structure, that is easy and fast to use.
Data handling	The system will be custom built to track and handle the right data, given an easy and structure overview of the required data and statistics.

Gain Creators

The value proposition for a custom build system should address benefits and outcomes, that the users expect and desire when performing their jobs. These benefits and outcomes have been grouped into five categories, which are described below.

Table 15 | Custom Build System, Gain Creators

Clear and better system structure	A new system offers a clear system structure, which is expected by all stakeholders. The system structure is customized to fit the jobs related to the Proof Program.
Quick access to key functions	The new system gives an easy overview of, and quick access to, the most necessary functions for the stakeholders, which can benefit with higher job performance.
Automatization of tasks and data gathering	Functionalities to collect and combine data, as well as, to manage multiple parts of the Proof Program will be automated, minimizing time spend on these jobs.
Easy overview of teams	Founders and team members will be connected to their startups, ensuring a simple and easy overview of the teams and their contact informtaion.
High information quality	The information quality in the new system will be high due to a better structure as well as linked data.
Great design	A minor – but important – gain is a better design. With a nice and beautiful design, the users might more interest in using the system, and less frustration when errors occurs.

Pain Relievers

The new systems pain relievers have been categorized into three main pain relievers, that all alleviate one or multiple problems for the stakeholders.

Table 16 | Custom Build System, Pain Relievers

Clear system structure	With a clear system structure, the new system will relieve the most extreme pain experienced by the stakeholders; that they find the current system to be messy.
All information is easily accessible	With a strong structure, the new system offer easy access to relevant information, and thereby minimizing frustration and unperformed jobs. Another major pain reliever is the easy access to all the information.
Updated startup profiles	As all founders, team members and interns are required to sign up in the new system, and further complete the information on their profile, the pain from not being able to find information on the users will be relieved.

9.2.3 Finding the Fit

Osterwalder et al., (2014) states, that a fit is achieved, when the products and services the value proposition offer support the customers in their job, enable important customer gains and lower or remove extreme customer pains.

As there in this research is two value propositions, and three stakeholder profiles, a simplified determination of the best fit will be applied.

The best fit will be identified based on, which jobs, pains, and gains the value proposition addresses, and how important these are to the stakeholders. This mean that an extreme pain, that is addressed by the value proposition, will count more than a moderate pain, and thereby have a larger impact on the best fit.

To do so, the most extreme pain will get a value equal to the stakeholders total number of pains, and so on with the most moderate pain getting a value of one. If the pain then is addressed by the value proposition, its value will be multiplied with the total number of pains for the specific customer segment.

A fit with an extreme pain (6) will therefore get a high score ($6 \times 6 = 36$), and a fit with a moderate pain will get a low score ($1 \times 6 = 6$).

Table 17 - Example of finding the fit

Pain	Value	If fit
Pain 1	6	36
Pain 2	5	30
Pain 3	4	24
Pain 4	3	18
Pain 5	2	12
Pain 6	1	6

This ensure, that the ranking of the most important jobs, pains and gains is addressed and taken into consideration.

Table 18 - Finding the Fit

CSE Employees		Podio v2	Custom Build
Jobs	Find information	25	25
	Add information	20	20
	Book Meeting Rooms	15	0
	Extract data & statistics	10	10
	Interaction with users	5	0
		75	55
Pains	No System Structure	25	25
	Lack of education	0	0
	Minimail User engagement	15	0
	Function does not work as expected	0	0
	Lack of Podio functionality	0	5
	40	30	
Gains	Better information	49	49
	Better system structure	42	42
	Education in the system	0	0
	Inclusion of users	28	0
	Automatization of jobs	0	21
	Proof program specific functions	0	14
	Linked databases	0	7
	119	133	
General Manager		Podio v2	Custom Build
Jobs	Book meeting rooms	9	0
	Extract data	6	6
	Access information on startups	3	3
	18	9	
Pains	Lack of system structure	25	25
	Function does not work as expected	0	0
	Incomplete data	15	15
	Too time consuming	0	10
	Too manual	0	5
	40	55	
Gains	Better system structure	9	9
	Easier way to collect data	6	6
	Easier access to data / statistics	0	3
	15	18	

Founders		Podio v2	Custom Build
Jobs	Book meeting rooms	4	0
	Receive news and information from CSE	2	0
		6	0
Pains	No value in using the system	9	0
	No system structure	6	6
	Poor design / functionality	0	3
		15	9
Gains	Better system structure	9	9
	Inclusion of users	6	0
	Education in the system	0	0
		15	9
Total for all stakeholders		343	318

The results from the table above shows, that the best fit occur between the stakeholders and the value proposition for Podio v2. This fit is described as a problem-solution fit, as it brings a solution to the customer segments problems on paper, but have not been tested in the market.

One could based on the numbers above conclude, that it is the best strategic decision to stay on Podio and just update the system structure, as Podio v2 has the highest total score. However, digging deeper into the scores reveals several interesting findings:

Podio v2 offer the best product / service

The value proposition for Podio v2 offer the best products, services and features for the stakeholders. This, as the total job score for Podio v2 is significant higher than for a new system (99 v 64). This is also the case for each individual stakeholder, which indicate that Podio v2 offer more important products and features, that the stakeholders need to perform their daily jobs, than a new system.

The new system creates the most gains and relieve the most pains

Another interesting finding is that a new system creates the most gains and relieves the most pains for the stakeholders. If isolating pain relievers and gain creators, then the new system will have the best fit with a score of 254 against 244 for Podio v2.

General Manager has the best fit with a new system

If we isolate each stakeholder to see what value proposition have the best fit, an interesting finding occur. The only stakeholder that have the best fit with the value proposition for a new system is the General Manager, while both CSE Employees and the founders have the best fit with Podio v2.

KEY LEARNINGS FROM THE SOLUTION

By using the elements from the Value Proposition Design, the three key stakeholders' customer profiles, as well as the value proposition map for Podio v2 and a custom build system, have been analyzed. The analysis has shown that the stakeholders experience multiple pains by using the current system, and list numerous gains the right solution should create. To find the best fit between the three stakeholders and the two possible solutions, a simple scorecard have been applied. The results show that a new system can relieve more pains and create more gains than Podio v2, but that Podio v2 offer the best product / service. Further interesting finding is that the General Manager, is the only stakeholder, that have the best fit when a new custom build system.

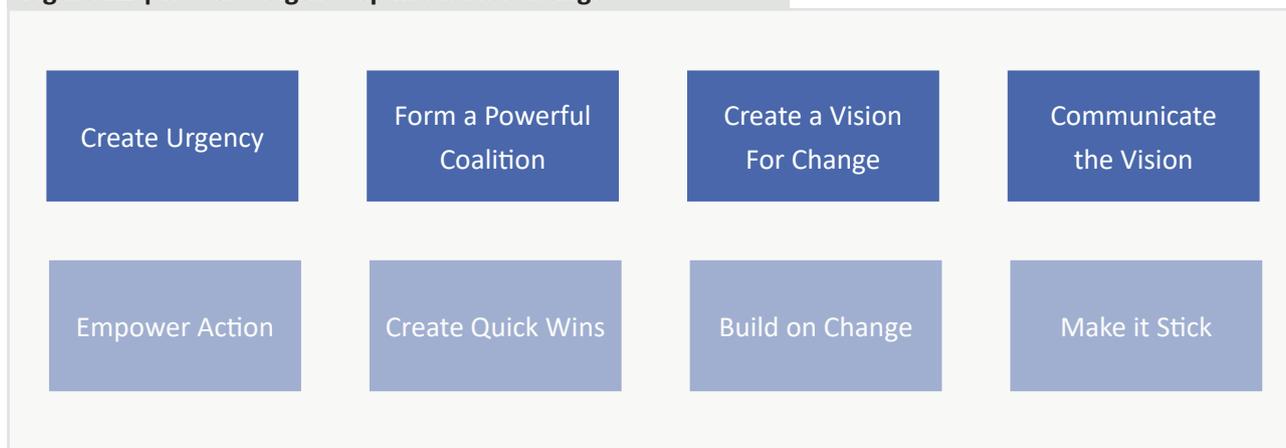
KEY POINTS

- The most important jobs include adding and accessing data / information, and booking of meeting rooms.
- The most extreme pains are related to the system structure, and incomplete data.
- The most essential gain creators are related to more efficiency, easier overview, and more inclusion of users.
- A new system can relieve the most pains and create the most gains, but cannot offer the required jobs / features.

10. Is CSE ready for change?

Independent of what solution CSE choose, the organization will face change. Therefore, it is important to have a focus on change management, and if there are the right prerequisites for implementing the upcoming change. To analyze this, the first four steps of Kotter's eight-step model for successful change management will be applied. As delimited in the theoretical framework, step five, six, seven and eight will not be included, as there are not relevant at present. When CSE is starting the implementation of the found solution, it is, though, highly relevant to focus on the delimited steps.

Figure 22 | Kotter's eighth-step model for change



10.1 Create Urgency

The first step for successful change is to create urgency. The urgency for change is already present at CSE, as the stakeholders already have created this urgency themselves. This urgency is created based on the use of Podio, as the stakeholders find it to have too much incomplete data / information, and a poor system structure. This is described by Employee 2, (2016: 34) “There is clearly a lack of information. The profiles are not updated. So it is a really big problem, that you can’t see who is working on the different teams”, by Employee 3 (2016: 46), “You are spending too much time on looking for things, and when you finally find it, then it is just not updated, because someone else have not had the opportunity or have forgotten to do so”, and by Founder 1 (2017, 22), “I just think there is something wrong with the use of Podio, and that there are really good future opportunities for building a more esthetic product, that is easier accessible, and then test it internally, before launching”. This urgency for change is crucial to start and lead the implementation of a new IT system, and could also lead to the creation of a strong guiding coalition.

10.2 Form a Powerful Coalition

A strong guiding coalition starts with putting together the right people with the right authority. Kotter (2012) mentions four characteristics that seem to be essential to efficiently guide a coalition. The team needs to have position power, with enough key players on board, the right expertise to ensure various points of views and intelligent decisions, enough credibility so the employees takes the change seriously, and finally include enough qualified leaders, to show the right leadership.

All four characteristics seems possible, as both the General Manager, the CSE Employees, and founders have the urgency of change. Actively including this coalition in the development and implementation, could ensure that rest of the organization accept the change, as all three stakeholders have authority and credibility. The General Manager have authority over Employees and external partners, the Employees have authority over founders, and founders have authority over their team members. Furthermore, by strategically forming the coalition, it can further be ensured that the right expertise and leadership is becoming part of the coalition.

10.3 Create a Vision for Change

Following Kotter's eight step model of change management, leads to the development of a vision and strategy for the change. Kotter state,

clarifying the direction of change is important because, more often than not, people disagree on direction, or are confused, or wonder whether significant change is really necessary. An effective vision and back-up strategies help resolve these issues. (2012: 61)

A clear vision and strong strategy will keep the guiding coalition motivated to guide the transformation, and also limit possible issues. When asked what the purpose is for the new system, General Manager (2016: 4, 5) identifies four elements, described below:

First, it should be an administration system for the staff and business developers, to find information on the startups, as well as giving an overview of what startups they are responsible for, how far they are, and what the current status is. Second, it is a system for the General Manager to easily – and without help from the CSE Employees – find data and statistics on i.e. how many cross disciplinary teams, there is at CSE, which is relevant when she gets request for that data. Third, it is a system for the external mentors, to make it easier to help the startups, but also to give the CSE staff an overview of, what mentors is helping what startups. Finally, it is a system for the startups to have one approach to CSE, for all communication; to minimize the numbers of e-mails they get from different employees.

The purpose for a new system is rather complex, and include both management of information, collection of

data, and communication between staff and startups, but the interesting part, is that the General Manager do not see this as a vision or a strategy, but more as a demand from the stakeholders. When questioned about the strategy, General Manager replies, “It is not like a strategy that have been planned, but more a demand that needs to be fulfilled. Now we are gathering it all in one system, instead of having many different systems running” (2016: 39).

The issue with not planning a strategy, and just running the project to satisfy a demand, is that demands can change rapidly, which was seen in the development of the former proof system by GroupM, described by the General Manager,

They made what we asked for at the beginning, but then I think a lot of it was due to the feedback from us, as what we initially wanted kept changing. So the process ran out, and they made what we had asked them for initially. But it took too long time – it took over a year, so the needs we had from that year, to how it finally looked had changed, and we also got new employees. So it all changed. (2016: 45)

The General Managers idea with a new MIS is to combine all CSE systems into one single system (General Manager, 2016: 39). As the three stakeholders perform their jobs in different ways, all CSE systems could be several different systems, depending on the view.

For the General Manager, all CSE systems might only be data collection and data handling, while for the CSE Employees, all CSE systems could include communication, booking of meeting rooms, and knowledge sharing.

10.4 Communicate the Vision

A further issue is, that without a clear strategy or vision, it is difficult to include rest of the organization in the change. Communicating the vision is an essential part of change management (Kotter, 2014) to ensure, that the organization understand and support the change.

In this case, the CSE employees know, that a new system will be developed and implemented, but they are not aware of the vision or the strategy for how it will be implemented. The reception of the vision is therefore based on the employees’ individual assumptions, and not based on a clear vision from the General Manager. This also have the consequence that the stakeholders do not know, why the organization face this change.

[...] I actually have no idea why we should change. I think that Podio seems to be a modular system where you can create spaces and such things, and maybe get something custom-made; That’s just what I think so I do not really know why we should have made a new system. It might be because, there are some features that we do not know about in Podio, and that we need, and therefore is making a new system. (Employee 2, 2016: 55)

I have not been introduced to it, but I know we are getting a new system and I think it's because Podio is too messy and opaque, and because we have to collect all this information, that right now is spread all over the place. (Employee 3, 2016: 51)

This lack of communicating about exactly why the change is needed, might result in a falling motivation from the guiding coalition. Without clear communication about, what exactly the new system includes, the CSE Employees and founders could expect gains, that would not be created, and thereby end up resisting the change, when the new system is implemented. Another interesting discussion here is who the system, in reality, will be built for. The General Manager argues, that the system is due to a demand from the stakeholders; but who have been included to create this "demand"? Which of the stakeholders will see this as a Technology Push, and who will experience it as a Market Pull? The analysis of the solution further revealed, that the only stakeholder, that experience a fit with the new system, is the General Manager.

A further reason for why the vision, and the communication of the vision, is so important, is, that it will give the organization an idea of the process for building and implementing the new system. The General Manager is well aware, that building a new system is a big project, why she also mentions, that the system should be built in small parts, and tested as early as possible.

The idea has always been that this should be a soap box car; It should just work, and then we can always shine it afterwards, and see when we really start testing. Actually, do what we ask our startups to do. Start by seeing if it can be used, and then we can always improve it and implement more functionality. (General Manager, 2016: 55)

This approach will, without a doubt, eliminate multiple of the classic mistakes within IT projects, but is none the less crucial to communicate clearly to the organization. If the idea is to build a system, that combine all former systems, but start with a simple version, then the stakeholders will, for a period of time, be distressed to use multiple systems at once to perform their jobs.

The essential part here is, if the stakeholders are ready and motivated to use multiple systems, while waiting for all functions to be developed and implemented. Some stakeholders already find Podio to be far away from their daily work and see it as yet another platform (Founder 2, 2016: 22); so introducing another system, while still using Podio, do not seem to strengthen their motivation.

This concern – that the users just see Podio as yet another platform, is also recognized by the General Manager, "[...] So the element of going on Podio to read the messages... Then they (the messages, red.) basically just end up in the box with messages from other IT systems, so we don't even reach them anymore" (General Manager, 2016: 19).

KEY LEARNINGS FROM THE CHANGE

To understand if the organization is ready for change, the first four steps of Kotter's Eight-step Model for Change have been analyzed. The findings have shown that there indeed is an urgency for change, as all three stakeholders experience frustrations with Podio, and that this urgency can be the basis for creating a strong guiding coalition for the change. However, there is no clear vision to be communicated, why the CSE Employees base the vision on their own assumptions.

KEY POINTS

- All three stakeholders have an urgency for change due to the frustration of using Podio.
- Creating a clear vision, and communicating it, is important for CSE, to ensure continuously support to the change.
- Without a clear vision, the stakeholders can create false assumptions for the change, and loose motivation, if the change is not what they expected.

11. Discussion

Based on these findings, this section will discuss, if building a new Management Information System (MIS) is the right strategic decision for Copenhagen School of Entrepreneurship (CSE).

The research has, so far, revealed, that two other student incubators use Excel to manage information, that the stakeholders in CSE find Podio cumbersome to use due to low information- and service quality, that a new system can relieve more pains and create more gains than Podio v2, but cannot support all the jobs required by the customer segments, and that there is an urgency for change.

The first option is to build and implement a new MIS. A strong reason for why a new system could be the right strategic decision, is the fit between the three stakeholders list of gain creators and pain relievers, that shows that a new system can create more gains and relieve the same amount of pains as Podio v2. Building a new system that relieve the pains and create the gains could motivate the stakeholders to use it, and thereby secure a high information quality. This would, however, be a large-scale project, and could easily run into problems, as well as multiple of the classic mistakes in IT development presented by McConnel (1996).

By building a new system, CSE face the risk that the team working on the project is too weak to run it. Even a small IT project can require a team of four or five people to research, what the users want, structure it, design it, make prototypes and tests, and finally implement it. If the team is too small, or do not have the required qualifications, then the project could either take too long to finish, and thereby lose motivation from the stakeholders, or be implemented unfinished without a strong system quality. CSE and the project team must agree on requirements, time scope, and resources.

Agreeing on the requirements is also important to avoid requirement gold-plating. The three key stakeholders identify multiple functions and features, that they want. Trying to develop and implement all these functions at once, with a small team and a short time span, will most likely result in an unsuccessful project. Building the whole system at once with a weak team would therefore not be a strategic good decision.

The second, and in this case the chosen, option for the CSE is to run the project with a small team and a risk for weak personnel, while only implementing the most key functions to collect data and manage information. This can without larger risks result in a simple system with a strong information- and system quality, that create some gains and relieve some pains, but only offer limited products and services. Ensuring a high information quality would, however, require the CSE employees, founders, and even team members to create a user profile in the system, to ensure updated information, and a full overview of startups, founders and team members. For people without an understanding of IT project management, it could seem like a straight forward task to build a small system, and then force the users to register and use it. But, without a focus on how to lead the development, the implementation, and the change, this option could quickly become a failure. As argued by Kotter (2012) it is crucial, that the organization create the right climate for the change, and engage and enable

the organization. This to ensure that the stakeholders understand and support the change. The management and the project team must ensure, that there is an urgency for change.

The analysis based on the DeLone & McLean IS Success Model (2003), as well as the customer profiles of the three stakeholders show, that there indeed is a strong sense of urgency for change. The users find little value in Podio, and using Podio often results in frustration over low structure, bad functionality and missing information. CSE should therefore seek to strengthen this urgency, as well as use it to form a powerful coalition with the right combination of people. Doing so, will help motivate the stakeholders to lead the change.

However, even though there is an urgency for change, and a possible strong guiding coalition, a main question still occurs: How will a new IT system, with yet another login barrier, ensure to include the users, and not just end up as “another IT system” that the users find no motivation in using?

Developing and implementing a small scale MIS, that only include the most key functions, will still require the stakeholders to use Podio for functionality, that is not included in the new system. This means, that the stakeholder will still have to use Podio, while, at the same time, learning and using a new MIS.

To overcome this issue, CSE must show the right support for the development and implementation. In the literature review, four intentions that top managers (in this case the General Manager) should aim for, when an Information System project are taking place in the organization, was introduced; Accommodating the implementation process, Reshaping the organizational context, Adapting the technology and dealing with stakeholders (Boonstra, 2013).

For a successful development and implementation at CSE, the organization should especially have a focus on selling the project with great enthusiasm and championship in the organization and further negotiate with, motivate, and influence the different stakeholders.

This could clarify the process for the stakeholders, explain them why the project will start in small scale, and further sell the project to the stakeholders, to keep them motivated for the change. This approach is also an important part of managing the change. If CSE want the development and implementation of an early stage IT system to be successful, it requires a lot of clear communication, and a sublime effort in selling the project to the stakeholders.

The third option for CSE is to stay on the current platform – Podio – and focus on building a more structured way of collecting and accessing data as well as sharing information. This option will, without a doubt, be the easiest solution for CSE, as there is no development and implementation of a new system, and therefore limited change and limited risk for failure. However, one of the main issues of staying on Podio, is if the stakeholders already have formed a too powerful coalition against Podio, and thereby resist using it. If the stakeholders have decided, that Podio does not work for them, then it will take hard work to convince them to actively use Podio. To avoid this resistance against Podio, CSE must assure, that the stakeholders get the right education in the system, and have quick and easy access to support, whenever frustrations and problems occur.

Furthermore, CSE must create a vision for the future use of Podio and communicate this vision numerous of times to rest of the organization. By doing so, CSE have a strong possibility to affect the stakeholders attitude towards Podio v2, and thereby succeed in staying on the platform.

However, The main issue with staying on the current system is, though, the General Managers own attitude towards Podio. The General Manager states multiple times, that Podio is not working for CSE, and that it requires too much time and too many resources to perform the required jobs. If the General Manager do not vote for future use of Podio v2 and advocate this to rest of the organization, then this option seem impossible.

12. Conclusion

The goal for this thesis has been to answer, if it is the right strategic decision for Copenhagen School of Entrepreneurship, to build and implement a new Management Information System, due to a wish for new features and frustration with the current system. The easy way to answer this, would be with a simple “yes, it is the right strategic decision”, or “no, it is not the right strategic decision”, but this would not cover the right aspects of the conclusion.

The reason why CSE has decided to get a new IT system, is due to a frustration with Podio, to automatize jobs, and to implement new features.

The conducted research has shown, that the frustration with Podio, in fact is not a frustration with the system, but is a frustration due to missing information and poor system structure. This missing information and poor system structure, is further a result, that the users do not know, how to use Podio properly, or do not have motivation for using it. The issues with Podio is a result of the organizations use of it, and not a result of its quality.

The following will conclude when it, for CSE, is the wrong strategic decision to build their own system, and when it is the right strategic decision.

It is the wrong strategic decision for CSE to develop and implement a new MIS, if this decision has been made solely because the stakeholders find Podio difficult to use. To think, that a new MIS system automatically will solve all problems and frustrations with Podio is naive, and the building of a new system have a high risk of failure.

There is no doubt, that the stakeholders find Podio difficult to use, and thereby experience frustration, when using it. These issues must be addressed and fixed. On the other hand, the effort to educate and include the stakeholders in, how to use Podio correctly, has also been limited, if existing at all.

Instead of building a new IT system without doing any research, Copenhagen School of Entrepreneurship can investigate, when and why the stakeholders find it frustrating to use Podio and work towards resolving these issues. Building a new IT system would, potential risks aside, also require the users to become educated in the new system. Resources spent on implementing the new system – introducing it to the stakeholders, educating the stakeholders, and offer quick and qualified support – might have been better directed toward investigating the issues with Podio and educating the stakeholders on, how to overcome them.

It is a good strategic decision for CSE to develop and implement a new MIS, if this decision has been made due to the need of new functions and automatization, that Podio – or any other similar platform – cannot handle. As mentioned numerous times, building a new MIS is a large project, so the benefit of the new system should be significant higher, than the risk of building it. CSE must ask themselves –and the stakeholders - if

the new requirements are so important, that they need to be included in a system, or if they would just be nice to have. Changing the whole system for a “nice to have” feature, that satisfy one or two stakeholders would be a wrong decision, while changing the system to significantly support and improve the stakeholders’ jobs could be a good decision.

Though it could be a good strategic decision to build and implement a new MIS, if the features and requirements are crucial for CSE, it would still require significant planning and work from the General Manager and the project team. Important stakeholders should be included in the specification of requirements to ensure, that the new system benefits everyone, and a strong strategy and vision for the development and implementation should be designed and communicated clearly. This to ensure, that the stakeholders are motivated for, and support the change.

With the rapid development within technology, it is easy to think, that new Information Technology will solve all problems and that you can develop your way out of all issues. But, one must remember, that with new technology comes change, and as people tend to resist change, new IT systems should not be developed, unless they are absolutely necessary and have potentially higher net benefits, than the risks related to the development and implementation.

13. Future Perspectives

This thesis was initiated by presenting the problem – solution – change approach, that formed the basis for the study. This new approach, has proven relevance for the studied case, and resulted in interesting findings. The following section will introduce future perspectives on, how this approach, and the theories included, can benefit CSE, or other companies / organizations facing challenges related to the use of Information Technology.

Based on the findings in this thesis, organizations should seek to understand the root to a problem, before taking any actions towards a solution. If an organization take actions solely based on a problem, they experience, and not seek to fully understand the cause of the problem, underlying issues might return, even if a new solution is implemented, and the identified problem is solved. The use of a model like DeLone & McLean's, has proven highly relevant for organizations like CSE facing problems related to IT systems. Though the model is comprehensive, and originally used on larger – and often quantitative – amounts of data, this thesis has proven that the DeLone & McLean IS Success model offer a strong framework, that can be adapted and used based on qualitative data. By allowing this use, both small and large organizations can, without large amounts of data, identify where , and why, users experience problems with information technology, and how these problems affect the general use. The DeLone and McLean IS Success Model already propose multiple methods for measuring its different dimensions, but, as in this case, some of these methods are too complex and complicated for smaller organizations, or organizations with limited use of Information Technology. Therefore, future research can focus on developing measuring tools for the model, that can be applied to cases, where data is limited. These measuring tools will allow organizations with smaller IT systems, to have a strong framework for analyzing the coherence of their IT systems, and further investigate each dimension and its effect on the system.

Furthermore, the methodology for finding the best solution can be replicated to similar cases. The use of the Value Proposition Design has, just like the DeLone and McLean IS Success Model, been modified to fit this specific case, but this modification has been found highly relevant. The Value Proposition Design have not, as originally intended, been used to design a new product, but is instead used in a simplified way to analyze the wants and needs from the stakeholders, and thereby identify the best solution among two options. However, looking at the stakeholders as customers has created a strong perspective to choose – or design – a strong value proposition, that create the right value for the end users. Future research for similar organizations could therefore with high relevance, focus on including more elements from the Value Proposition Design, and base the development of future IT solutions on this method.

14. Bibliography

- Adeoti-Adekeye, W. (1997). The importance of management information systems. *Library Review*, 46(5), pp. 318-327.
- Andersen, K. V. (2016, June 07). Sygehuslæger slår alarm: IT-system fungerer overhovedet ikke. Retrieved October 2016, 2016, from nyheder.tv2.dk: <http://nyheder.tv2.dk/samfund/2016-06-07-sygehuslaeger-slaar-alarm-it-system-fungerer-overhovedet-ikke>
- Boonstra, A. (2013). How do top managers support strategic information system projects and why do they sometimes withhold this support? *International Journal of Project Management*, 31, pp. 498-512.
- CSE. (2017). Retrieved 04 10, 2017, from Copenhagen School of Entrepreneurship: <http://cse.cbs.dk/what-is-cse/>
- Curlee, T. R., & Tonn, B. T. (1987, March). The success or failure of information management systems: A theoretical approach. Oak Ridge National Laboratory.
- Darmer, P., & Nygaard, C. (2006). Paradigmer: Forståelse, anvendelse og begrænsning. In S. Vøxted, *Valg der skaber viden - om samfundsvidenskabelige metoder* (1 ed., pp. 52-66). Hans Reitzels.
- Davis, F. D. (1989, September). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information. *MIS Quarterly*(3), pp. 319-340.
- DeLone, W. H., & McLean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. *Information System Research*.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year update. *Journal of Management Information Systems*, 4, pp. 9-30.
- Dorsey, P. (2005). Top 10 Reasons Why Systems Projects Fail.
- GroupM - 1. (n.d.). Design Manual - Unpublished internal document.
- GroupM - 2. (n.d.). Requirement of Specifications - Unpublished internal document.
- Justesen, L., & Mik-Meyer, N. (2010). *Kvalitative metoder i organisations- og ledelsesstudier* (1 ed.). Forfatterne & Hans Reitzels forlag.

- Jørgensen, L. H. (2016, february 15). Skandalen om Skats it-system: Efter 11 års fiasko koster det millioner at lukke EFI ned. Retrieved october 20, 2016, from dr.dk: <https://www.dr.dk/nyheder/penge/skandalen-om-skats-it-system-efter-11-aars-fiasko-koster-det-millioner-lukke-efi-ned>
- Klinke, L. Ø. (2016, June 03). Nyt sundheds-it-system har haft mere end 9000 fejl på to uger. Retrieved october 20, 2016, from version2.dk: <https://www.version2.dk/artikel/nyt-sundheds-it-system-har-haft-mere-end-9000-fejl-paa-uger-800038>
- Kotter, J. P. (2012). *Leading change*. Boston: Harvard Business School Press.
- Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing* (2 ed.). London: Sage Publications Inc.
- Laudon, K. C., & Laudon, P. J. (2014). *Management Information System* (13 ed.). Pearson.
- Lauesen, S. (2016, July 5). Derfor fejlede tre store offentlige it-projekter. Retrieved April 12, 2017, from IT-Universitetet i københavn: <https://www.itu.dk/om-itu/presse/nyheder/derfor-fejlede-tre-store-offentlige-it-projekter>
- McConnel, S. (1996). *Rapid Development : Tamin Wild Software Schedules*. Redmond, Washington: Microsoft Press.
- Nelson, R. R. (2007). *IT Project Management: Infamous failures, classic mistakes, and best practices* (6 ed., Vol. 2). Minnesota: MIS Quarterly Executive.
- Ohno, T. (1988). *Toyota Production System: Beyond Large-Scale Production*. CRC Press.
- Orlikowski, W. J., & Baroudi, J. J. (1991). Studying Information Technology in Organizations: Research Approaches and Assumptions. *Information Systems Research* (1).
- Osterwalder, A., Pigneur, Y., Bernada, G., & Smith, A. (2014). *Value Proposition Design*. John Wiley & Sons, Inc.
- Petter, S., DeLone, W., & McLean, E. (2008). Measuring information systems success: models, dimensions, measures, and interrelationships. *European Journal of Information Systems*, pp. 236-263.
- Qassim, A. A. (2008, May). Why information systems projects fail: Guidelines for successful projects. *IntoIT*.
- Reddy, G. S., Srinivasu, R., Rikkula, S. R., & Rao, V. S. (2009). Management Information System to help for providing decision making in an organization. *International Journal of Reviews in Computing*.

Ries, E. (2010, April 30). The Five Whys for Start-Ups. Harvard Business Review.

Ries, E. (2011). The Lean Startup. Penguin Group.

Rossetto, K. R. (2014). Qualitative research interviews: Assessing the therapeutic value and challenges. *Journal of Social and Personal Relationships*, 4, pp. 482-489.

Roy, V., Danis, M., & Bernier, C. (2010). Leadership, Sourcing Modes and IT Project Management. *Canadian Journal of Administrative Sciences*(4), pp. 348-362.

Seddon, P., & Kiew, M.-Y. (1996). A Partial Test and Development of Delone and Mclean's Model of IS Success. *Australasian Journal of Information Systems*, 1.

Tripathi, K. P. (2011, 03). Role of Management Information System (MIS) in Human Resource. *International Journal of Computer Science and Technology*, 1, pp. 58-62.