



Exploring digitalization at Arcada through design-thinking

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<p>Sammandrag:</p> <p>Detta examensarbete beskriver processen och utvärderingen av produktionen ”Exploring digitalization at Arcada through design-thinking.” Produktionen syfte var att utnyttja design-thinking och i detta fall Kees Dorst Frame Innovation (2015) för att skapa modeller för Arcadas digitala tjänster. Frågeställningen för arbete var: ”Kan man använda design-thinking för att lösa Arcadas problem?”</p> <p>Genom att följa Dorst metod steg för steg undersökte skribenten Arcadas både organisationens och människornas målsättningar. Därefter framställdes modeller hur Arcada kunde utveckla sin digital verksamhet. Arbetet startade med starkt fokus på digitalisering, men slutsatsen var att ordet inte är nödvändigt. Istället rekommenderar skribenten att Arcada satsar på öppenhet och mera förståelse.</p> <p>Denna rapport beskriver dessa steg samt utvärderingen av arbetet.</p>	
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<p>This is a report on a thesis production which explores digitalization at Arcada. The aim of the production was to find ways for Arcada to develop its digital services. The task was approach by using design-thinking, and more specifically the Frame Innovation method described by Kees Dorst (2015). By follow the steps outlines by Frame Innovation, the production includes surveys, interviews, reviews of internal goals and prototypes of possible future solutions. The initial research question was: “Can design thinking be applied at Arcada to solve its problems?”</p> <p>While the production started with a focus on digitalization, the author soon realized that the term was unnecessary and limiting. Instead the focus of Arcada should be on transparency and understanding.</p> <p>Each step of the process is summarized and evaluated in this report.</p>	
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1 INTRODUCTION

Our original interest in making a production stems from our own experiences at Arcada. Together with my co-writer Oliver Ström we share the experience of three bachelor degrees at the school. I also have work experience ranging from 2014 - 2017 at the Communications Department at Arcada. Our education and freelance work with digital experiences also made Arcada a suitable subject to explore.

While a big part of the decision was to experience product development in a familiar environment, another factor that influenced our choice was our disappointment with the level of digital experience Arcada provides its students. As such, a secondary purpose of this thesis production was to inspire Arcada as an organisation to take at least some action.

Another aspect of our worry that played into the decision to create something for Arcada are the budget cuts and changes in state funding which the Finnish government has been pushing for the last years (Arcada's Annual Report 2015). From our perspective Arcada was not doing enough to improve the quality of its services. We felt that this had a negative impact on students and staff. It could also affect the quality of education. Ultimately it could be one of the factors contributing in Arcada losing to its competition.

These aspect tie into the area of research we set out do in our thesis production.

1.1 Research question

When we first set out to define how to approach this thesis production we focused on the word "digitalization". Soon we realized that it was too vague and carried little meaning. Design thinking, being another trendy term was sparked interest after reading about the ides and concept behind it. In addition to these, we also familiarized ourselves with IDEO's Human Centered Design which provided useful tools. Kees Dorst Frame Innovation appeared to be the theoretically most comprehensive method.

As such, our research question for this production was defined as:

“Can design thinking be applied at Arcada to solve its problems?”

A broad statement such as this was too broad from the start. However, as Dorst (2015:102) writes:

“Another key feature of the frame creation process is its drive to move beyond the simplifications that often underlie conventional problem-solving, and take on the complexity of the world as it is.”

We wanted to keep the focus on product development rather than follow too strict academic guidelines. From the start, we also understood that it would be a great undertaking and the probability of being able to follow through the entire method was likely. When discussing risks, we immediately recognized that this kind of production would require more resources and ample support from Arcada. In the end, we concluded that even a failing to complete the entire Frame Innovation method would give data on how to resource a similar undertaking, which in turn would benefit Arcada.

The concept for this thesis was pitched to the Communications department which agreed that any research or product development for Arcada would be beneficial. This thesis production was then made as an order for the Communications department.

2 METHOD

We approached this production as a product development process. Throughout the data gathering phase we followed scientific best practises whenever it was possible, keeping in mind that we did not aim for scientific rigor.

Our method for this thesis production was Kees Dorst frame creation process, which he presents in his work *Frame Innovation* (2015). The frame creation process is nine step process that is designed to solve complex problems. By going through the process step by step and following the guiding principles, problems can be rephrased in ways that allows new solutions. (Dorst 2015:73-79,101) Our main focus was to complete this process and to use it to create possible solutions for Arcada. The steps for the frame creation process are:

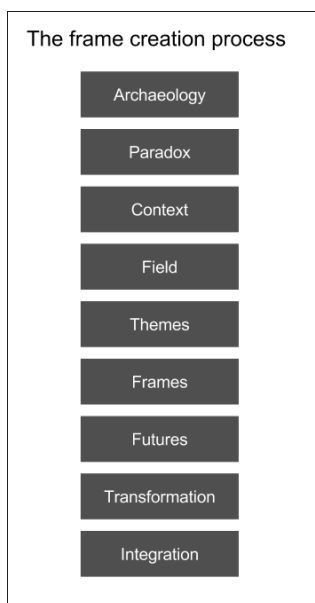


Figure 1. The frame creation process step by step (Dorst 2015:75)

The steps of this process, while they appear in a linear overlap each other more or less depending on the problem being solved. (Dorst 2015:99)

2.1 Archaeology

Archaeology is the first step of the frame creation process. In this step the team investigates the depth of the problem it tries to solve. Which means that it needs to gather an understanding of the organisation, what it consists, what is being done to solve the problem and what decisions have been made. Dorst also writes that it should include possible outcomes that never happened. Which means that one should understand not only failures, but the reasoning behind decisions. (Dorst 2015:74)

2.2 Paradox

With the newly gathered understanding of the problem, the team should ask: What makes the problem so hard to solve? Dorst encourages the team to define the “core paradox” or “deadlock” that keeps those responsible for the problem from solving it. (Dorst 2015:75-76)

2.3 Context

In this step, the team stops examining the core paradox. Instead it should investigate key stakeholders to understand how they work. This is because whatever the problem is no solution can be achieved without the participation of key stakeholders. (Dorst 2015:76)

2.4 Field

When the team has an understand of the problem and the key stakeholders it can broaden its view and look at the field. The field contains players. A player is someone who is somehow connected to the problem. Dorst (2015:76-77) writes that the team should examine players and:

“...concentrate on their “currency,” power, interests, values and in particular the practices and frames they bring that could push the problem in a new direction”

2.5 Themes

Dorst describes themes as deeper factors that make the needs, motivation and experiences of players. Suitable themes to put into use later are universal factors that are common amongst players. Dorst (2015:77) writes:

“We are not used to discussing these deep themes in normal parlance. It takes exceptional circumstances for these profound human themes to be expressed (in eulogies, for example). But for the process of frame creation to work, the themes have to be very explicit.”

2.6 Frames

The team should focus on themes that are as widely shared by players as possible. There are the ones which have most potential. This is also where a team with a diverse background can produce interesting results. With the selected themes in mind, the team sets out to formulate frames which can then be used in a creative process. Dorst (2015:78) suggests that the team writes down frames in sentences:

“If the problem is approached as if it is ... , then ...”

2.7 Futures

With these frames in mind, the team begins to reshape the problem. This is where coevolution comes in to play. The team creates possible solutions as process of exploration. (Dorst 2015:78)

In addition to Dorst's methods, tools provided by the IDEO Human Centered Design toolkit also come useful. Different kind of prototyping techniques are useful in this phase. (IDEO, HDC)

Dorst explains that here the team creates possible futures, which can later be narrowed down and explored further. (Dorst 2015:78)

2.8 Transformation

In the transformation phase, possible solutions created in the previous step are evaluated. Both short- and long-term feasibility is considered. The team then creates plans for those solutions that qualify. (Dorst 2015:79)

2.9 Integration

In the last step, new solutions are integrated. This in turn should create new opportunities. The organisation should then continue applying the frame creation process to keep solving problems. (Dorst 2015:79)

3 THE WORK

3.1 Gathering insight

We started with Archaeology in the spring of 2016. Our first course of action was to map Arcada's digital services and the organisation. These maps were visualised as large mind maps.

From the organisation map we identified the leadership group as the key stakeholders. In the spring of 2016 sent out a request for an interview describing the purpose of our thesis production and our goals. From 9 requests, we were able to interview 4. The contents of these interviews are described in the Product Report under the section for Archaeology.

At the same time, we created surveys for both staff and students which asked for feedback on Arcada's digital services. Both groups use a different set of tools which forced us to create separate surveys. In the student survey, we allowed students to indicate if they were interested in participating in interviews later on in the process.

With the help of the Communications Department the student survey was sent out to all students. In the end, we received 296 responses. The data provided good insight how students use services.

The staff survey covered a different set of services but was similarly set up as the student survey but was promoted on the staff intranet. The response rate among the entire staff was approximately 25%.

To our knowledge, this was the first time services were benchmarked like this at Arcada.

Our student survey yielded 50 leads for students interested in participating in interviews. Out of those we eventually managed to interview 6 students. 5 bachelor students and one master students. The qualitative approach gave us more flexibility and

we were able to let the discussion centres around the student's needs. From these interviews, we then gathered common themes which can be found in the product report under the section Themes.

Plans were made to interview more of the staff, but scheduling and time constraints limited us from following through.

In our summary on archaeology we give a brief overview of Arcada's digital services and an interpretation on how it performs:

“Arcada's digital services are a disjointed collection of services from different eras. While a proper level of functionality exists, little effort has been put into taking user needs into consideration. There is very little oversight or active development going on which leave these services quickly outdated.

Students today are accustomed to a level of quality in digital services which makes Arcada's services look outdated. Another challenge, is that students expect the tools they often use to be accessible. They do not think about the whole or want to explore the ecosystem.”

3.2 Analysis

Archaeology alone provided us with a large amount of data. Stakeholder interviews provided good insight into strategic thinking. Because of our experiences at Arcada we had to carefully weigh in how much of it we could use without becoming too biased.

Based on the archaeology we summarised a paradox and talked through the context phase. Because the process is not linear, we returned to archaeology while working on other steps. For instance, after student and staff interviews Arcada's paradoxes became more apparent. This also prompted us to adjust our first paradoxes. Our assessment of Arcada's paradoxes include issues with growth:

“The immediate paradox that stands after the archaeology phase is Arcada's need for new thinking and solutions that will allow growth. Creating growth needs investments, but the state funding is decreasing.”

We also touch subjects which are partially based on our experiences at Arcada. These paradoxes can be considered vague, but being honest about problems is what we saw as an important part of the frame creation process:

“Our own experiences at Arcada also show that staff often oppose change and quickly become territorial. Asking questions about their work and how they benchmark results make people defensive. Discussion about making something new and better often end up leading nowhere, because the moment one suggests anything different, all cooperation ends.”

In our report, we state Arcada’s deadlocks as:

- Because Arcada doesn’t understand the impact poorly designed services can have on staff and students, it has led to a situation where a complete overhaul is necessary but impossible.
- Because Arcada struggles with its funding, prioritising digital services is seen as unnecessary.
- Because Arcada doesn’t understand its students, decisions are made based on dishonest or idealistic assumptions.

Student and staff interviews provided us with good insight. We were quickly able to find common themes and user needs. These themes were then written down to help guide us in the framing process. Having students talk about their own experiences at Arcada was a good way to gather understanding. What surprised about student themes were not how universal they turned out to be. The motivation and awareness students showed was surprising. It is good to be mindful that even though paradoxes and deadlocks are defined before themes in the framing process, the process itself is not strictly linear. Our themes for students:

- Education and its learning
- Issues with user experience in Arcada’s digital services
- Study motivation and academic performance
- Social interactions and a need for community

Because we had so much insight into Arcada after archaeology, we had to be careful when talking to students and staff.

3.3 Prototyping

With paradoxes, context and themes we set out to frame our problems and to create prototypes. These sessions were often done as white-boarding exercises where we discussed the problem and drew possible solutions on a whiteboard. This allowed us to quickly visualise ideas and larger concept. This part of the work combined data from our research and creativity to come up with possible solutions.

Throughout late fall 2016 and early spring we continued the process of prototyping and working with frames. The results from these exercises are found in the product report.

Our proposed solutions suggest changes in how information is handled within the organisation:

“Because Arcada as an organisation lacks transparency and the will to share information in fear of conflicts, something has to be done about communication. If communication at Arcada was facilitated better, the flow of information would be more efficient. This would create opportunities for cooperation and new thinking.”

In another solution, we tackle the territorial nature of staff:

“A dedicated service design team would make sure the quality of the customer experience at Arcada is constantly developed and pushed forward. The team would oversee performance and design of services. It cannot be limited by department boundaries that currently create problems because players at Arcada are never strictly bound to a single department.”

3.4 Reflections

When reflecting on the process of creating this thesis production I cannot avoid looking at my entire experience at Arcada. Having done two different programmes and in

addition that worked for the organisation I often felt that I knew too much. This thesis was only a small part, but it contains a lot of experience scattered over several years.

Between those years and the last years in particular are also filled with experience outside Arcada working both in the public and private sector. Because of this I often felt as an insider and outsider at the same time. At times, when writing or white-boarding I have had to ask myself if my knowledge is based on what we learnt through the process or if it is something that has grown over time.

In addition, my interest in planning, gathering insight and designing services has kept me motivated to pursue this rather unorthodox thesis production. It feels only fitting that when one is trying to create new thinking it has to start by stepping outside the norm.

The ability and opportunity to something outside the norm is something I contribute to my status as both staff and student. Access to information, albeit not precisely secret, and understanding of how to organisation works allowed me to even start this thesis.

That being said, this access also came with problems. When writing down themes, or trying to evaluate how digital services at Arcada actually perform I have tried to be mindful of my own bias. Practise in the field has already taught me that I do not built products for myself, something which I've seen younger designers often do. Dorst (2015:100-101) writes that the first principles of the frame creation process are “to attack the context” and to “suspend judgement.” I have tried my best to follow these practises.

Many parts of the text can be interpreted as very critical of Arcada. In my opinion, the criticism is aimed at the organisation as a whole. That is why one of the deadlocks is:

“Because Arcada doesn't understand its students, decisions are made based on dishonest or idealistic assumptions.”

While a statement such as the one presented above is very critical, it is based on experience, discussions, interviews and the process as a whole. For Arcada to be able to create new thinking it requires this kind of honesty. At the same time, I know that

working with limited resources is hard and service design is not the solution to all problems.

Overall, the task of trying to solve large problems with creativity was an interesting task. It provided good exercise and I feel that it has contributed to my professional development.

3.5 Evaluation

Applying the frame creation process allowed us to realise that thinking and using the word “digitalise” bears little meaning. It was a good way to create discussion during interviews with stakeholders and staff. Unfortunately, it only confused students. The term digitalisation became redundant over time. After this thesis production, we think it is a useless term when creating new solutions.

When looking back at the process it’s easy to see where we could have put in more effort. By being more thorough and interview more staff we could have made a much more comprehensive overview in the archaeology phase. By interviewing more staff our solutions could have taken their needs better into account. The student point of view was well covered though.

Due to time constraints towards the end we never managed to do testing on our ideas with users. We understand that this is a crucial step when developing products, but we were unable to fit it into our schedule.

One could say that we were overly ambitious when taking on such a large project. As it was previously stated in the introduction the scope for this thesis production was set very wide. This was because we wanted to follow the principles of the frame creation process. By narrowing down on a specific problem or service, we might never have found what we did.

4 CONCLUSION

It is hard to estimate the return of investment that can come out of well-designed services. This thesis production never set out to do that estimate, instead its purpose was to show that there are methods Arcada could use to avoid complacency and the “wait and see” tactics it employs on many fronts.

Unfortunately, this thesis production was unable to follow through on all the steps that the frame creation process requires. Regardless of this, we think that it shows that it is possible to create new thinking and ideas at a very low cost. We were able to articulate problems we think Arcada need to solve to be able to create solutions. Problems with transparency and communication are good examples.

The frame creation process is by no means a magic solution. It is only a tool among many other tools. After this process, the impression we have of Arcada is still that it holds great potential. But not breaking free from old frames is a missed opportunity.

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