Aalto University
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Master's Programme in Computer, Communication and Information Sciences

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A User-Centered Approach to Landing Page Optimization in a Software-as-a-Service Business

Master's Thesis
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ABSTRACT OF MASTER'S THESIS

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There are two essential steps in the digital marketing process: acquisition and conversion. Acquisition describes the efforts of getting a potential buyer to visit a business's website. Conversion is concerned with convincing that prospect, who has arrived on a website, to take a desired action, thus to convert. The process of improving conversions is called conversion rate optimization (CRO). While marketers increasingly understand the importance of optimizing their website for conversion, often CRO is only done in a quantitative way, relying on web metrics and visitor behavior. This limited approach does not consider the reasons behind visitors' behavior, their underlying needs and way of thinking when evaluating products and services online. Yet, those reasons are crucial to understand when optimizing for conversion.

The objective of this study is to investigate how methods from user-centered design can aid in uncovering the needs and thought process of website visitors evaluating a Software-as-a-Service solution online. Additionally, the visitor's overall buying process is studied. The study is conducted as semi-structured interviews and retrospective testing with six recent website visitors interested in the SaaS service. Thematic analysis and customer journey mapping are used to analyse the interview data.

The results indicate that visitor needs are mostly connected to inquiring service-related information, such as performance or features, as well as the pricing range. Additionally, aspects such as ease of getting started, service flexibility and quality support had a strong influence. It was found that most of these aspects are typical for successful SaaS solutions. The overall decision making process of choosing a SaaS solution proved to be fairly unstructured. However, being present in the minds of potential customers before they feel the need to search for solutions actively seems to be crucial in order to be considered. In addition to that, the first impression of a business's online presence also largely impacts visitor trust and consideration. Regarding the final decision making, it is to be noted that technical visitors are strong influencers but the final provider selection is a collaborative effort. Concerning the page itself, visitor conversion is generally favored when presenting relevant content to visitors in relevant order, while leaving out irrelevant content.

Keywords: user-centered design, conversion rate optimization, landing page optimization, website optmization, software-as-a-service

Language: English

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Mai Helena Meissner

Abbreviations and Acronyms

AWS	Amazon Web Services
AZ	Availability Zone
B2B	Business-to-Business
B2C	Business-to-Consumer
CJM	Customer Journey Map
CPU	Central Processing Unit
CRM	Customer-Relation-Management
CRO	Conversion Rate Optimization
CTO	Chief Technology Officer
GCP	Google Cloud Platform
HCD	Human-Centered Design
SaaS	Software-as-a-Service
SEO	Search Engine Optimization
SLA	Service Level Agreement
UCD	User-Centered Design
UX	User Experience
VM	Virtual Machine
VPC	Virtual Private Cloud

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Chapter 1

Introduction

1.1 The Value of Conversion Rate Optimization

In recent years, the total business revenue from selling products and services online has only grown, and is expected to increase further (Meghani, 2018; Statista, 2019*a*). Therefore, the performance of businesses' online marketing becomes increasingly important. In the digital marketing process, according to Ash et al. (2012), there are two fundamental steps to acquiring new customers: 1) acquisition and 2) conversion. Ash et al. (2012) explain that acquisition is concerned with marketing activities encouraging a suspect, i.e. a potential buyer, to visit a business's website. Once on the website, the suspect becomes a prospect, and conversion focuses on motivating that prospect to take a desired action, thus to convert. These can be actions such as completing a form or clicking a button. In turn, the process of increasing conversions is referred to as conversion rate optimization (CRO). According to Blanks and Jesson (2017), marketers devote enormous attention to convincing potential customers to visit their websites. They state, however, that the step of conversion is often neglected. As suboptimal websites lead to lower conversion rates, that again means a partial waste of acquisition spend and loss of potential revenue (Blanks and Jesson, 2017).

Due to its high impact on revenue, CRO has been extensively studied in the context of e-commerce (Ghandour et al., 2008; Kaushik and Grondowski, 2017; Verma and Singh, 2015; Wu et al., 2018). Most of the studies seem to research B2C e-commerce, i.e. *consumers* buying from *businesses*. However, with total sales of $12.2 trillion, the global B2B e-commerce industry, where *businesses* buy from *businesses*, was valued over six times higher than the B2C ecommerce market in 2019 (Statista, 2019*b*).

One type of B2B e-commerce is the Software-as-a-Service (SaaS) business model, which has gained increased popularity. As a large amount of sales for SaaS occur online, conversion rate optimization is integral to SaaS businesses' strategy. Despite this, CRO for SaaS seems to be a less studied topic. Walther et al. (2012) study the success factors and value propositions of SaaS solutions; however, it is unclear how these relate to online marketing and conversion rate increases. In addition, the factors influencing the marketing of SaaS services are investigated by Michelsonas and Abdur (2012). While this provides a useful start to form hypotheses for how to increase conversion for SaaS solutions, the relevance of the identified aspects to conversion is undiscussed.

CRO often relies on quantitative methods to identify opportunities for improvement and test webpages. Quantitative methods are useful to provide insight into visitors' online behavior; however, they do not provide any understanding as to why visitors behave in a certain way (Tomlin, 2018). This deeper understanding of visitors, however, is crucial for building high-converting webpages (Blanks and Jesson, 2017). As user-centered design (UCD) heavily focuses on involving users in order to create design solutions for them (SFS Finnish Standards Association, 2019), it seems to be well suited for gaining this knowledge, which is often lacking in CRO projects. Due to its deep user involvement, its approach and methods allow us to gain a thorough understanding of the website's target visitors and thus ensures that the new website design fulfills visitors' expectations.

In light of the factors discussed above, the goal of this thesis is to develop visitor empathy required to improve a B2B SaaS provider's webpage and to identify what UCD-based methodology is appropriate to gain these insights.

For this purpose, this thesis is conducted in collaboration with Aiven, a managed and hosted open source database (DBaaS) provider. Aiven provides a range of different databases and related technologies as Software-as-a-Service to business customers. These services are run on top of public cloud providers, such as Amazon Web Services (AWS), Google Cloud Platform (GCP) and Microsoft Azure. Currently, the company has eight different services in their portfolio, each with their own page on the website. As a startup, Aiven must be efficient with its resources and needs to increase sales above all in order to grow. For this reason, the company desired to optimize their website for conversion.

As, according to the company's analytics, most of the conversions occur on either the homepage or on service pages, this thesis focuses on service pages. As most of the service pages are structured in a similar way, the idea is that one of these pages will serve as an optimization subject for this thesis. The insights gained into it can then ideally also be applied to all other

seven service pages. The service which was chosen for this study is Aiven's managed and hosted Kafka service. Apache Kafka is a messaging system ran as a cluster of server instances that allows the creation and operation of complex data flows at scale. Its distributed nature makes it more fault-tolerant as its instances can be located in varying physical locations. In recent years, it has become a popular technology for use cases such as real-time stream processing, activity tracking or data monitoring (Apache Software Foundation 2017). More specifically, Aiven is interested in increasing the number of visitors that sign up for a free trial of the service. Thus, in this thesis, conversion refers to the action of starting a service trial.

1.2 Research Questions

As illustrated in Blanks and Jesson (2017) or Kaushik and Grondowski (2017), website optimization projects consist of identifying improvement opportunities, creating an improved website design and then implementing and A/B testing it. However, in order to be able to explore this topic in sufficient depth, the scope of this thesis is restricted to gaining visitor understanding for opportunity discovery only. Aiven can then utilize these insights to create and test new designs for the webpage that aim to increase conversion compared to their current design. A brief suggestion for achieving this is presented in the discussion 5.4.

As presented above, CRO is an essential activity for SaaS businesses. This emphasizes the importance of understanding what makes SaaS webpages high-converting and how this can be achieved. Therefore, on one hand, this thesis aims to research what affects visitors' decision to sign up for a free service trial. In detail, this includes their needs regarding the webpage and their journey towards deciding to trial and finally choose Aiven's service. On the other hand, the aim is to determine what methodology using UCD would be suitable to obtain these visitor insights. Based on this, the following research question arises:

RQ1: How can user-centred methods help understand the needs and conversion path of webpage visitors with the higher goal to improve conversion on a SaaS solution page?

In order to conquer the main research question it is divided into three sub-questions:

- ***RQ1.1.*** What methodology can be used to identify and understand

visitors' needs and conversion path as they are assessing a SaaS solution via its webpage?

- ***RQ1.2.*** Who are the visitors of Aiven's Kafka service webpage? Who should the thesis research focus on?
- ***RQ1.3.*** What do visitors need from the webpage and what is their path to conversion?

When investigating how user-centered methods can deliver the desired visitor insights, there are likely to be many valid answers. Accordingly, various different approaches can be suitable. To keep the scope of this thesis reasonable, the goal is to identify one possible approach. However, I would like to highlight that there may be numerous other suitable approaches not explored in this thesis that can yield the desired results.

1.3 Thesis Outline

After introducing the topic and presenting the goals and research questions to be addressed, chapter 2 will explore the relevant background concepts and review related literature. First, it investigates what conversion rate optimization is and why it is important. Afterwards, several other cases of CRO are reviewed to understand their methods and findings. Next, the user-centered design process is illustrated followed by the investigation of its connection to and suitability for CRO. Lastly, chapter 2 introduces the concept of Software-as-a-Service, factors that make it successful and how it can be marketed online. Chapter 3 illustrates the methodology employed. It presents the research process and the methods used to gain visitor insights. The results obtained with these methods are presented in chapter 4, followed by a discussion of the results and the methodology in chapter 5. Furthermore, the limitations of the thesis are illustrated and suggestions for Aiven and general future work are given. Finally, a conclusion regarding the research questions is drawn in chapter 6.

Chapter 2

Conceptual Background and Literature

In order to share a basic understanding of conversion rate optimization, this chapter starts by defining the topic and argues its value to businesses relying on online sales and marketing in section 2.1 and 2.2. Afterwards, the factors that typically affect conversion rates are identified and described one by one in section 2.3. Furthermore, various cases of conversion rate optimization projects are investigated in section 2.4 in order to learn about other researchers' and practitioners' CRO approaches as well as the factors affecting conversion that they identified. Subsequently, in section 2.5 user-centered design (UCD) and the process this design approach typically follows are introduced. Afterwards, the connection between UCD and CRO and the suitability of UCD practices for CRO are pointed out (section 2.6). Finally, the Software-as-a-Service business model is introduced in section 2.7 along with what to consider when marketing SaaS solutions.

2.1 What is Conversion Rate Optimization

Landing page optimization (LPO) concerns "getting people to act after they have arrived on your landing page" (Ash et al., 2012, p. 15), i.e. increasing "the number of visitors on your site who do what you want them to" (McFarland, 2013, p. 7). This refers to completing a goal that one has set, such as purchasing a product or signing up to a newsletter. This number is also referred to as the conversion of a page. The percentage of converting visitors is called the conversion rate (Ash et al., 2012). Landing page optimization and conversion rate optimization (CRO) can be used interchangeably (ibid).

Ash et al. (2012) describe a landing page as "any webpage on which an Internet visitor first arrives on their way to an important action that you want them to take on your site" (p. 4). Landing pages can be individual pages that are part of a main website or stand-alone pages. However, they are those pages that have the largest impact in terms of business revenue. For that reason, those are the pages of a website to which optimization efforts should be directed (Ash et al., 2012).

2.2 Why is CRO Important

Ash et al. (2012) state that there are three essential steps to the online marketing funnel, starting with attracting people to visit one's site (acquisition), motivating them to take the desired action (conversion) and lastly continuously engaging them to develop a deeper customer relationship (retention) (Figure 2.1).

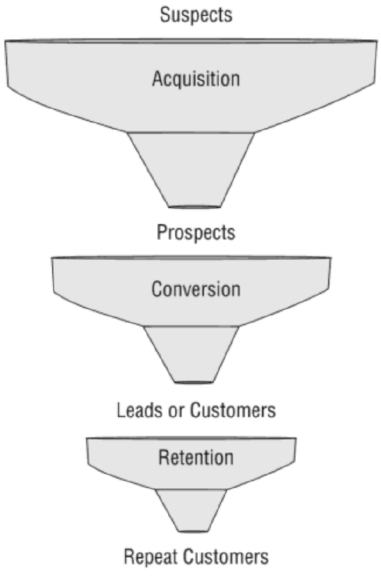


Figure 2.1: Basic online marketing funnel (Ash et al., 2012)

The authors further detail that in order for the funnel to work at its best, all steps should operate optimally. However, the step of conversion is often neglected by marketers while a lot of effort is directed towards acquisition and retention activities. As a result, companies needlessly reduce their revenues by missing opportunities to convert visitors. As stated by Ash et al. (2012),

a large amount of the budget invested in acquisition and retention efforts is largely lost when neglecting conversion efforts.

Thus, according to Ash et al. (2012), by devoting more effort to the step of conversion, businesses can better harness their investment in acquisition and retention and consequently increase their revenue by converting more acquired prospects into leads and more leads into repeat customers. Figure 2.2 below aptly illustrates this: in the worst case (top-left) one attracts a large number of prospects but largely fails to convert them, whereas in the best case (bottom-right) more qualified visitors are attracted, from which a fair percentage are converted (Waisberg and Kaushik, 2009).

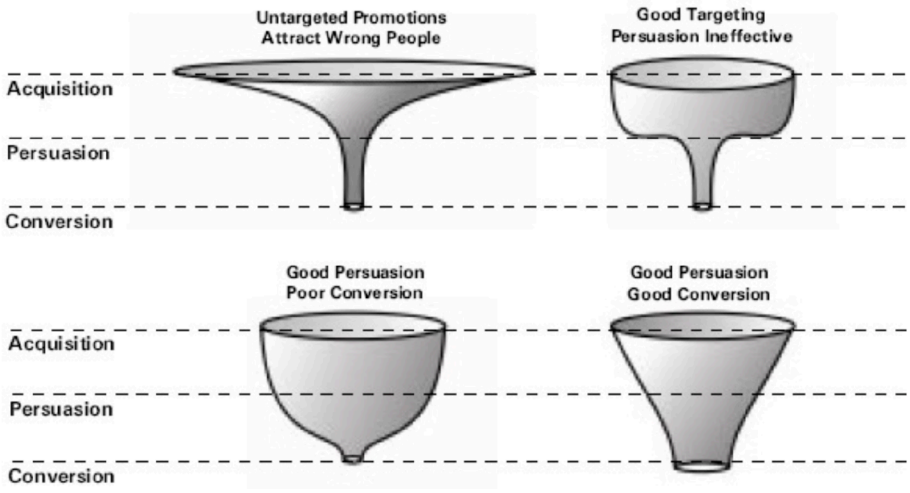


Figure 2.2: Customer Life Cycle Funnel (Cutler and Sterne, 2000)

2.3 Web Design Principles for CRO

While there are no "best practices" or any "one-fits-all"-approach when it comes to CRO, it is useful to understand what factors and principles positively or negatively affect conversion rates. One can then reflect on and analyse how well certain design principles are considered in one's own webpage and identify potential areas for improvement.

One Clear Call-to-action

According to Ash et al. (2012), webpages often fail to clearly indicate to visitors what action they should take on the page. Therefore, having one clear call-to-action (CTA) for visitors is important. This allows them to further engage with the page after landing on it, instead of leaving the page because of being unsure of how to continue. The CTA is more successful when visual attention is drawn to the section in which it is contained. Everything else on the page should be kept visually simple and clean for the CTA to stand out more. Additionally, the CTA description should clearly indicate what happens when it is clicked and be phrased from the perspective of the visitor, e.g. "start my free trial" (Ash et al., 2012).

Deliver what Visitors Come for

When a visitor arrives at a webpage, they have come from some other source, referred to as the upstream traffic source. As a result, they have gained certain expectations about what they will find when visiting the page (Ash et al., 2012). In order to maximize conversion, or rather prevent the visitor from leaving, the information the visitor will find on the page needs to be aligned with their expectations and provided at the right time (Ash et al., 2012; Blanks and Jesson, 2017; McFarland, 2013). This creates the feeling for visitors that they are continuously advancing towards their initial goal (Ash et al., 2012).

Usability and User Experience

Good usability and user experience (UX) are considered to impact conversion rates greatly (McFarland, 2013; Rouke, 2011). The better the overall experience navigating a page, the less visitors leave, which directly impacts conversion (Gehrke and Turban, 1999; McFarland, 2013). Navigation can be made easier and more visitor-friendly by providing clear labels for links and using buttons to guide the eye when navigating (Gehrke and Turban, 1999). In addition to that, even small details in UX contribute to visitor satisfaction on the page and result in increased conversion (McFarland, 2013). Rosen and Purinton (2004) explain that the consistent, clear and direct use of a webpage makes a page more likable, assuming that likability is connected to conversion.

Complexity vs. Simplicity

Frequently, webpages overwhelm their visitors with too much input, i.e. presenting too much information visually or content-wise to take in all at once. While Lucian (2014) explains that a sense of information overload can leave visitors more satisfied, possibly due to the feeling of being able to make better choices, McFarland (2013) claims that less is more when it comes to content and elements on a webpage. Yet, Lucian (2014) explains that the amount of information that should be provided about a product or service also depends on its type. The reason for this is that different products might trigger different responses to information overload (Lucian, 2014).

Most visitors want to quickly navigate a page and reach their goal. If there are too many choices, they may become paralysed, and instead not choose anything and leave the page (Ash et al., 2012; McFarland, 2013). Therefore, whenever possible, the number of choices on a page should be limited and the visitor should be guided towards relevant options. This does not mean offering less options, but organizing related options into categories so they can be navigated to more easily (Ash et al., 2012; Rosen and Purinton, 2004).

As the web is primarily a visual medium, webpages should consciously be designed to direct the visitor's limited attention to the most relevant elements (Ash et al., 2012). With a clear purpose in mind, one should create a visually clear path by keeping all other elements that do not directly contribute to that purpose toned-down and simple. This reduces the cognitive effort required from the visitor (Ash et al., 2012).

Adequate Copy

McFarland (2013) explains that that text on websites, referred to as copy, should be easy to understand without using special terminology. Additionally, adjusting the style of copy more to the customers choice of words and way of speaking allows the visitor to better connect with the business (Ludwig et al., 2013). Nisar and Prabhakar (2017) explain that easy-to-understand copy improves visitor satisfaction and, as a result, leads to higher visitor spending. Gehrke and Turban (1999) add that copy should be clear and concise. Large amounts of text overwhelm visitors, especially when it is unstructured. As a result, visitors either skip long passages or lose orientation. Therefore, webpages should use clear headings and shorten text paragraphs to the core message while mentioning the most important details first (Ash et al., 2012).

Trust and Credibility

When carrying out transactions in the real world, there are several cues to evaluate the other party by, but when purchasing products and services online, there first is nothing else to assess an online business by than its web presence. Within milliseconds to seconds, visitors develop an initial impression of businesses online, including their trustworthiness (Ash et al., 2012). Yet, trust is essential for the visitor's readiness to make transactions.

On one hand, trust is affected by the visual appearance of a business. The higher the production quality and the more up-to-date and professional the website, the more trustworthy a business generally appears (Ash et al., 2012). A unique and memorable look also makes a website more liked and preferred (Rosen and Purinton, 2004).

Another dimension to trust is third party validation, also called social proof. Social proof can come in the form of media coverage, displaying brand names and logos of current customers, customer testimonials and more (Ash et al., 2012). Providing such social proof can make the visitor feel better about reaching a purchase decision or completing a transaction (Ash et al., 2012). When providing social proof via testimonials, they should contain emotion and speak in the same way as the visitor to increase the likelihood of conversion (Ludwig et al., 2013). Ash et al. (2012) further explain that visitors often follow the behavior of other like-minded people according to two principles: (1) we are influenced by what most other people do ("the many") and (2) by what people like us do ("the comparable"), i.e. people that we have something in common with. Following these principles, testimonials should be relevant in the sense that they originate from customers to which visitors can relate. Ludwig et al. (2013) add that testimonials should reflect varying viewpoints to seem authentic and unbiased.

Additional Principles

Other factors that influence conversion rates are mentioned in the following. These aspects however, lie outside the scope of what this thesis is concerned with and are only mentioned for completeness.

Page Speed

Websites are expected to load fast. Visitors quickly abandon pages with a slow loading speed and move on to the next site without interacting with the slow site (Gehrke and Turban, 1999).

Personal Information

Marketers naturally want to acquire as much information about their potential customers as possible. However, Ash et al. (2012) explain that when asking visitors to complete forms enquiring their personal information, we should only ask for information that is absolutely necessary. Requesting any nice-to-have information can negatively impact conversion rates, since visitors always decide in the end whether to complete a form or not. Additional information can still be asked for later once more trust is established (Ash et al., 2012).

2.4 CRO Cases

The literature review conducted in this thesis revealed that there are rather few academic case studies researching how conversion can be optimized for businesses selling SaaS solutions or similar. In addition, some of these cases are fairly vague in describing their method and/or keep their findings quite brief. This means that applying their exact methods would be difficult due to a lack of detail. Nonetheless, the following case studies provide an overview of methods to improve conversion rates in the context of selling products or services, similar to SaaS, along with factors influencing visitor conversion. Consequently, their findings help in understanding what aspects seem of interest to visitors when reviewing products and services online.

The following three cases, conducted by Conversion Rate Experts for three of their clients, demonstrate a combination of both quantitative and qualitative methods to create highly-converting webpages.

In the first case, Conversion Rate Experts (Blanks and Jesson, 2017) collaborated with GoHenry, a FinTech company offering services to teach children how to manage their pocket money with their own bank account. Their aim was to improve the effectiveness of their online marketing and increase their market share. The optimization process started by identifying the most significant opportunities: those that are fastest to leverage and with the highest long-term impact on return on investment. They first consulted their analytics to investigate which of their marketing channels possessed the largest potential for improvement and to learn about visitors' current behavior. They studied the company's business model as well as requirements and obstacles of the financial sector, in which the company was operating. Their analytical and investigative work was complemented with pop-up surveys and online user testing. Infused with user insights gained from their quan-

titative and qualitative research, they created a new service landing page for mobile devices. The new design was A/B tested, resulting in a 78 percent increase in sign-ups compared to the original version. After creating a dedicated landing page, the gained insights were also applied to improve goHenry's pricing page. Typical objections or concerns they identified were a potential lock-in with the service and difficulties to cancel it. These were addressed via explanations and justifications about the price. This was done by comparing the service to a bank, pointing out the benefits of the service and adding a free service trial. The new pricing page increased the sign up conversion on the page by 36 percent as shown by A/B tests (Blanks and Jesson, 2017).

The second case addressed Voices' conversion goals. Voices is a voice-over marketplace for offering and searching voice-overs. The company wished to increase their number of subscriptions to their service. Again, the process was begun by investigating Voices' analytics to see where optimization would be most impactful. Afterwards, a visitor survey with 510 responses helped understand the thought process of visitors that left the site without signing up to the marketplace. Additional online user testing was conducted to uncover usability flaws on the site. Once visitors' objections to signing up and how to resolve them were understood, new test pages were created. As a result, customer logos were added to the homepage, as the optimization team realized that Voices had impressive clients not mentioned before who could increase trust towards the marketplace. Another obstacle for visitors was that they would not exactly understand for what they were signing up on the page. Adding demonstration videos for clarification solved this issue. Additionally, the conversion funnels for those offering and those searching for voice-over services were separated. In total, 11 experiments at five different spots in Voices' conversion funnel produced a conversion rate increase of 400 percent, changing from less than 5 percent up to 22 percent (Conversion Rate Experts, n.d.*a*).

In the third optimization case, which was performed for Moz, a company providing SEO tools, the goal was to improve online sales, i.e. increasing the number of Moz's Pro Membership subscribers. In contrast to the two previous cases, their process solely focused on gathering qualitative data to increase conversion. Conversion Rate Experts started by interviewing three different customer groups about Moz's service. First, they reached out to their paying customers, asking what they liked most and how they would describe the service to a friend. Then they consulted their free-trial customers, investigating what they would require to sign up for the service, what they liked so far and what their SEO habits were. Lastly, they interviewed former customers, asking why they left and what would convince them to return.

Alongside the interviews, they observed how the product was sold face-to-face and noticed that the enthusiasm in face-to-face sales was not translated to Moz's online presence. Based on those insights, they created wireframes, which they usability tested. After iteratively improving those wireframes, they arrived at a solution they were confident would perform better than the original. The new design was A/B tested and succeeded at increasing the service membership signup by 52 percent (Conversion Rate Experts, n.d.*b*).

Not only Conversion Rate Experts apply a combined approach for their website optimization process, i.e. using quantitative and qualitative methods. Morris Library of the Southern Illinois University, aimed to generate improvement ideas for their library website by coupling insights from their analytics account with feedback from library staff and user tests. The Virtual Library Group (VLG), who was in charge of the project, first analyzed the Library's Google Analytics data. They learned about visitor behavior, such as which pages were the highest trafficked, how visitors navigated on the site, whether visitors were using the website as the librarians intended and more. The insights from analytics were ambiguous. For example, no clicks on a link could have different interpretations. It might indicate that the link is not visible enough, or that visitors do not have a need for what the link offers, or that the link description is not clear. The difficulty is that different interpretations of a quantitative data point lead to quite different implications for the site redesign. Overall, the VLG concluded that analytics gave some cues as to what could be improved but design decisions should not be solely based on it due to its limitations and possibilities for misinterpretation. In order to confirm assumptions, additional usability tests with paper prototypes were run. Additionally, comments and complaints from the library staff were analysed. The study highlights that the combination of usage statistics from Google Analytics together with users' feedback and staff discussions led to the final improvement recommendations for the site. The VLG explains that each method yields different results that complemented each other (Arendt and Wagner, 2010).

Kaushik and Grondowski (2017) equally employ a combined approach. However their method incorporates quantitative data with design and conversion principles. The goal of their study was to improve the conversion rates of Nordic Design Collective's website, an e-commerce store selling art pieces from Nordic designers. They commenced by collecting qualitative data from the site's Google Analytics to get to know the website's visitors and understand where to start optimizing, i.e. which pages and what page elements to improve. Informed by analytics, two visitor personas were created. Afterwards, they examined how well the current designs match with

Important Layout Feature	Share that considered it important
1. Clear Product Information	92%
2. Total Price	90%
3. Easy to navigate	83%
4. Contact Customer service	81%
5. Secure e-commerce certificate	62%
6. Customer Reviews	42%
7. Responsive design (mobile)	27%

Table 2.1: Important features on a e-commerce website (Kaushik and Grondowski, 2017)

common e-commerce values and design principles found in the literature. The e-commerce values were taken from a Swedish HUI Research study representing what aspects in a website visitors deem important when shopping online (Table 2.1). It is important to keep in mind that these aspects apply to consumer e-commerce websites, and therefore have a limited validity for SaaS websites.

The design principles comprise a selection of guidelines for human computer interaction, such as indicating interaction clues to the user via an element's appearance, e.g. color, shape, size etc., indicating to the user in advance what an interaction brings about, providing feedback to the user after an interaction, an appropriate size of interactive elements and more. The authors applied both these types of principles to the website's product pages. In doing so, they aimed to increase the number of clicks onto the "place-into-shopping-cart"-button from both visitor profiles. An improved version of the site's product pages made changes to page content and usability. Clarifying copy was added to promote the site's secure payment method and outstanding customer reviews as well as a note about a 14-day return right. Usability-wise buttons for increasing or decreasing the desired amount of a product were added. The new product page was A/B tested and received a 9.9 percent increase over the original, climbing from 7.0 percent conversion on the original to 7.7 on the new design. It is to be noted that the test did not reach statistical significance, nevertheless the authors of the study recommend implementing the new version, as the true conversion can be expected to be around 7.1 percent on average.

Ash et al. (2012) present an approach only relying on conversion and design principles in their optimization efforts at CREDO, a cell phone company donating parts of its revenue to progressive causes selected by its members.

CREDO wanted to improve their landing page for an online campaign to convince people to switch to a CREDO phone plan. With the help of external consultation from SiteTuners they identified four webpage flaws typical in landing pages. Those flaws can be understood as working against common web design principles for conversion as mentioned in section 2.3. The problems found were associated with:

1. Too much visual clutter, caused by an overuse of multiple heavy colors of page elements
2. Too much text, such as a too long headline or full paragraph text, which people are highly unlikely to read
3. A lack of trustworthiness, as nothing on the page indicated who the company was or who they might be connected to
4. No clear CTA, as the CTA button gets lost due to visual noise as explained in point 1.

Consequently, to address the identified problems, a new landing page was designed and A/B tested against the previous version, resulting in an 84 percent performance increase.

Similar to Kaushik and Grondowski (2017) and Ash et al. (2012), Soonsawad (2013) also uses a set of factors to evaluate the design that shall be improved. Soonsawad's method is summarized in a framework for conversion rate optimization (Figure 2.3), in which they understand the customer's purchase decision making process leading to conversion as a journey of five stages: 1) Need recognition, 2) Information search, 3) Evaluation, 4) Purchase and 5) Postpurchase. During this journey seven elements are considered to influence the final conversion rate: 1) Catalyst, 2) Aesthetics, 3) Marketing mix, 4) Usability, 5) Persuasion, 6) Trust and 7) Interactivity.
The model describes the start of the customer's purchase process by the catalyst element, which is connected to creating awareness and motivation for a prospect to visit a website. Aesthetics are found in a web interface that creates a strong first impression of a service and are linked to how well the visitor perceives the overall experience with the website and how he evaluates the service offering. Marketing mix describes fulfillment, product, price and promotion, essentially communicating the value of the service to the visitor. Usability of a page is expressed through easy navigation that reduces hurdles and thus increases online sales, and effective link structure supporting the visitors exploration of the service. A usable page also increases trust, thus affecting the sixth element of the framework. A website that persuades

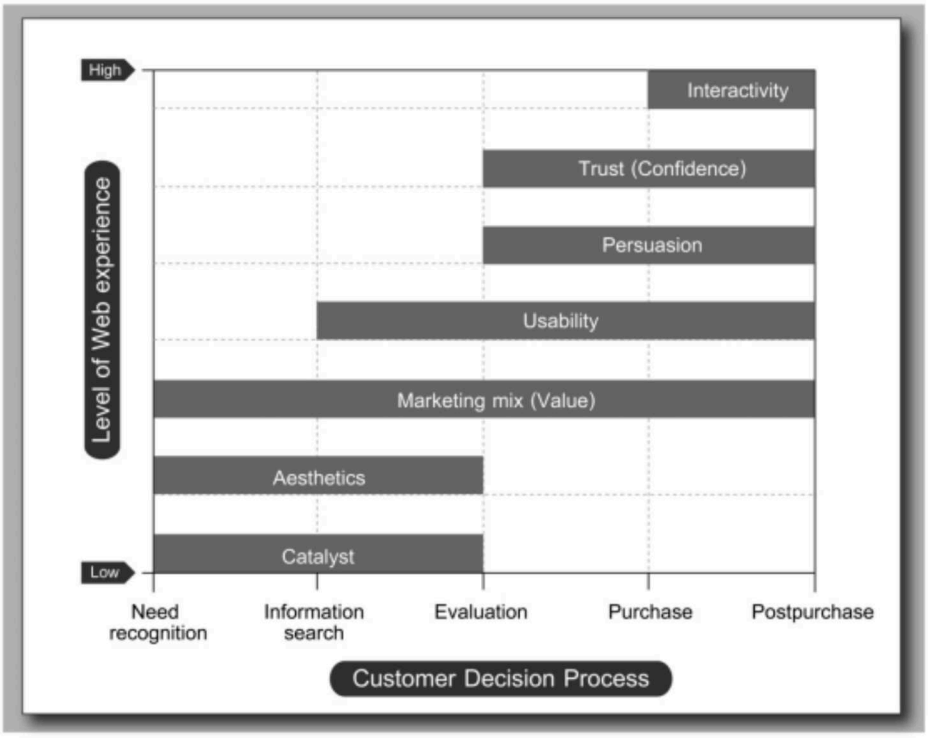


Figure 2.3: Conversion rate optimization framework (Soonsawad, 2013)

motivates its visitors to take the desired actions, i.e. convert. It demonstrates clarity and emphasizes the service's value proposition. Visitors need trust so they are ready to make a purchase decision on a website. This includes trust when it comes to making transactions, product quality and fit and customer data safety. This element is influenced by both aesthetics and usability. Lastly, interactivity which refers to customization and customer service delivers additional value. Thus, interactivity helps improve the customer relationship long-term (Soonsawad, 2013).

In their study, Soonsawad (2013) reported how the framework was used by a SaaS business aiming to increase its trial form conversion rate. In doing so, they discovered visitors typical concerns, usability and persuasion issues on the page. As a result the page containing the trial form was moved to a more suitable location and the copy on the page rewritten to clarify the trial's value. The number of form fields was reduced to decrease visitor concerns. The outcome was a conversion rate increase by 95 percent, from initial 4.89 to 9.55 percent (ibid).

In summary, we can observe that all these cases mostly utilize a com-

bination of pre-existing design and conversion guidelines, quantitative data collected through analytics or qualitative data through user interviews, surveying and user testing to investigate and improve their websites.

2.5 User-Centered Design

User-centered design (UCD), a term that according to Abras et al. (2004) stems from Donald Norman's research laboratory in the 1980s, describes an iterative design process that, at the core of its method, involves users in the process in order to help shape the design. Abras et al. (2004) describe user-centered design as "both a broad philosophy and variety of methods" that allows users to be involved in the process in different ways (ibid, p. 1). Typical steps to include users are, for example, gathering user requirements or evaluating design solutions (Abras et al., 2004). In its approach to user-centricity, UCD is very close to human-centered design (HCD), which "is an approach to interactive systems development that aims to make systems usable and useful by focusing on the users, their needs and requirements, and by applying human factors/ergonomics, and usability knowledge and techniques." (SFS Finnish Standards Association, 2019, p. 15). The ISO 9241-210 standard lays out a standardized framework for HCD practices (Figure 2.4), which can be integrated into any design process as is seen fit. It includes the following four activities: a) understanding and specifying the context of use (7.2), b) specifying the user requirements (7.3), c) producing design solutions (7.4) and d) evaluating the design (7.5). After performing all four activities, it is often necessary to iterate the design outcome by returning to any of the four activities. The first step involves "specifying the context of use," which can, for example, identify relevant user groups and stakeholders, including the typical characteristics for each group, and their goals and intentions regarding the system. The next step focuses on "specifying user requirements," where user needs and constraints are identified while considering the context of use. User *needs* should be described in terms of what users require to achieve something rather than how they achieve it. User *requirements* can then be derived from those needs. The third step concentrates on "producing design solutions" by absorbing all the information gathered in the previous activities, defining user tasks and scenarios, creating concrete design solutions in the form of mockups or prototypes and improving on those solutions through evaluation and feedback. Lastly, by "evaluating the design" the users' perspective on the design solutions can be examined. At this stage, additional information about user needs can be gathered, the strengths and weaknesses of the proposed solutions can be

understood, and successful realization of the defined user requirements can be tested. From an HCD perspective there might be an existing interactive system in place when executing the above-mentioned activities. In that case we can learn about user needs and the system's current shortcomings in the first activity, "specifying the context of use". As UCD and HCD practices are practically identical, when discussing UCD in this thesis it is with reference to the process described by the ISO standard.

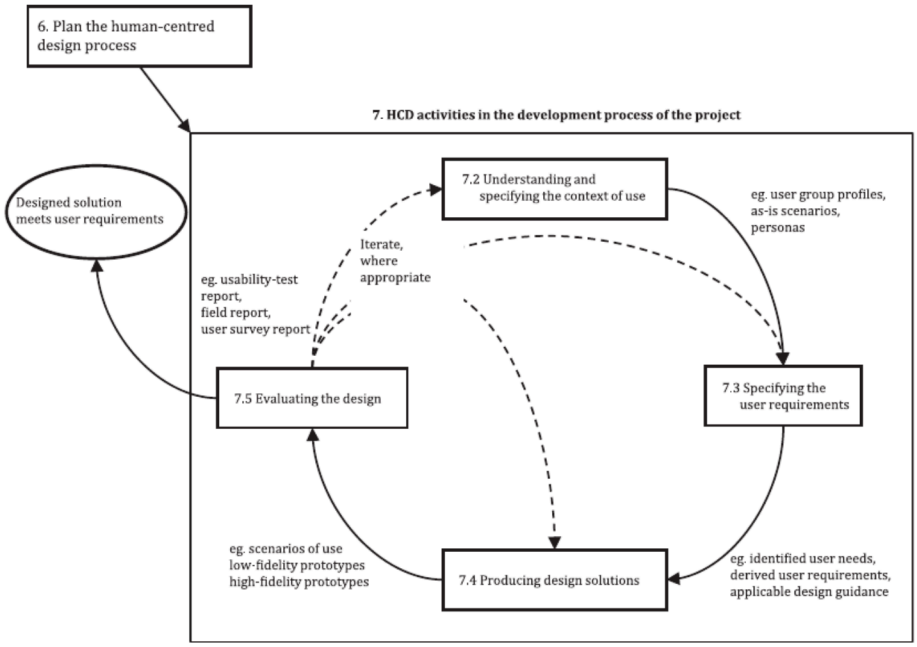


Figure 2.4: Human-centered design activities to create interactive systems (SFS Finnish Standards Association, 2019)

2.6 Combining CRO and UCD

There does not seem to be an officially agreed upon framework for conversion rate optimization, yet, there appear to be many different approaches with varying success. Several successful practitioners of CRO are aware of the benefits that user-centered design methods can bring to conversion rate optimization (Ash et al., 2012; Blanks and Jesson, 2017; Tomlin, 2018). Yet, Blanks and Jesson (2017) also report that many marketers "still" only understand CRO as running a multitude of A/B or multivariate tests with largely

uneducated guesses of which changes would in fact increase conversion on their website. Seldom, marketers take an approach where they intentionally get to know their visitors and their needs and mindsets to improve conversions, which, however, is crucial for successfully improving conversion rates. We can notice that the more successful approaches for CRO have many ideas in common with the UCD approach. For example, Tomlin (2018) refers to the combined approach of CRO and UCD as UX optimization.

As studied in section 2.5, a good understanding of users and their needs as well as their involvement is essential to UCD. Blanks and Jesson (2017), who are CRO practitioners themselves, state that "[i]t's hard to delight people if you don't know them" or that "[y]ou'll need to understand a lot about your visitors and how they interact with your website" (Blanks and Jesson, 2017, p. 76 and 82) and likewise Ash et al. (2012) concur that "[t]he real experts on the design of your landing pages are your website visitors" (p. 7). To recall, the first activity of the UCD process is "understanding and specifying the context of use", in which target user groups, including their intentions and characteristics, are identified. Likewise, when designing for conversion, as their first step Ash et al. (2012) define visitor roles and identify critical tasks based on the visitors' intentions for coming to the website. Similarly, Tomlin (2018) defines Personas in the beginning of an optimization project as it is critical to identify who a website should be improved for. For Tomlin, each Persona represents a group of people sharing one or several needs that the product or service marketed on the website addresses.

The second activity "specifying the user requirements" focuses on identifying user needs that are then used to define user requirements. Typical methods to gather user needs are interviewing, contextual inquiry or observation. If there is an existing system to improve upon, usability testing can also be utilized. After Tomlin (2018) has identified visitor groups, usability tests are conducted to understand more deeply why visitors typically interact with the website as they do and how well they can accomplish the intended tasks. Lastly, Tomlin (2018) analyzes and investigates the usability data gathered to determine opportunities for site improvement. It is also beneficial for creating ideas or assumptions as to what is not functioning as it should. Related to this approach, Blanks and Jesson (2017) emphase a conversion optimization approach in which one first needs to conduct research and then analyse the research findings in order to identify the problems of a website. Those problems are equal to unmet visitor needs. Only when the website's problems, i.e. unmet user needs, are understood, Blanks and Jesson (2017) move on to creating appropriate design solutions, corresponding to the third activity "producing design solutions".

These similarities suggest that the UCD process can provide a useful

framework for conversion rate optimization practices. During each of the activities in the UCD process, several different methods can be applied to execute the activity. As the user is at the core of the process, the goal is to understand their goals and needs thoroughly. For that reason UCD practices often use qualitative methods, such as interviewing and user testing as these allow us to explore the thoughts and experiences of the user deeply.

2.7 Software-as-a-Service

This section starts by clarifying the term Software-as-a-Service. Towards the end, it explores the aspects that contribute to the success of a SaaS solution and identifies how SaaS can be marketed online.

2.7.1 The SaaS Business Model

As Ma (2007) explains, the approach of Software-as-a-Service (SaaS) describes a business model in which software is sold as a package of software applications as well as the necessary infrastructure and support to run these applications. In contrast to traditional commercial off-the-shelf (COTS) products, the SaaS provider is responsible for delivering any necessary technical support services such as software maintenance and upgrades, data backups and security. Thus, Ma (2007) describes, SaaS delivers "computing utility, rather than the software only" (p. 1). With this business model, customers no longer need to install the software themselves and be concerned with operating and maintaining infrastructure and providing hardware and support within their own business. In addition, customers only pay for what they utilize, similar to pricing practices for services (Ma, 2007). Mäkilä et al. (2010) add that SaaS is typically standardized for all customers. Thereby, custom solutions are unusual for SaaS solutions.

2.7.2 Aspects of SaaS Success

As presented by Walther et al. (2012), there are several different factors (Table 2.2) and value propositions (Table 2.3) that can determine the success of a SaaS solution. Walther et al. furthermore identified the relevance of each of these factors and value propositions by counting the occurence of each of these aspects in academic literature. These occurrences are illustrated in the right column of the two tables. They conclude that performance is the most important success factor whereas saving costs is the most prominent SaaS value driver for businesses.

Critical Success Factors	Occurences in References
Performance - workload processable by software given certain time and resources	21
Security - technical security, e.g. risks of data loss or manipulation or architecture flaws	20
Individualisation - standard software vs. customized solution	18
Privacy - risks to reveal private data, closely connected to security	18
Availability - uptime of SaaS solution, crucial	16
Compliance - provider acts according to service agreement, incl. accountability, responsibility	15
Flexibility - provider's flexibility to provide resources the customer needs	14
Interoperability - integrability, degree to which software can be integrated into existing IT system	13
Ease of Implementation - realization of technical specificants into user-friendly software	11
Legal Privacy Policy - data centers fulfills legal regulations of targeted countries	6
Charging - pricing mechanisms	6
Alternative Costs of Innhouse IT systems - SaaS vs. own infrastructure	2

Table 2.2: most relevant factors for a successful SaaS solution (Walther et al., 2012, p. 6)

2.7.3 Digital Marketing for SaaS

In order to market SaaS solutions successfully there are several aspects to highlight to prospective customers. Michelsonas and Abdur (2012) state that it is crucial to address any of the prospect's trust issues, to provide technical information regarding the solution and to offer free service trials or demonstrations. In addition, they recommend providing relevant legal information. They explain that buyers are often not very familiar with the terms and conditions of SaaS solutions and therefore it is useful to help legal and procurement departments understand these terms early on. Other information to emphasize in the marketing should concern data security and service reliability. According to Brooks (2009), service reliability both includes performance and availability. Cohen explains that security as well as reliability and integrability are most often of interest to customers' IT departments or CIO. Their confidence in the solution could be increased, for example, by clarifying the solutions information architecture, security protocols, data management

practices and integration processes (Cohen 2011, as cited in Michelsonas and Abdur 2012). Lastly, Michelsonas and Abdur (2012) highlight the relevance of expressing a clear solution value proposition. According to their study, this can be done, for instance, by emphasizing the ease of the solution and its service-characteristics or by mentioning aspects such as rapid deployment, reliability, easy updates and flexibility. Cohen (2011) also suggests to focus on the benefits of the SaaS solution vs. an on-premise setup, the ease of configuration and details of support or potentially online training.

Value Propositions	Occurences in References
Cost Savings - potential to save costs by using SaaS solution	27
Financing - reduction of initial investments by using SaaS solution	18
Concentration on Core Competencies - customer outsources IT infrastructure and gains time to concentrate on their core competencies	17
Functionality - provider's industry specific knowledge added to existing software solutions	15
Cost Flexibility - due to SaaS' rental fees, initial payments drop reducing the lock-in effect	14
Installation - installation and attendance transferred to provider, reduced costs and personnel for customer	13
Planning - customer's better planning of cash-flow through continuous payments	12
Strategic Flexibility - lower sunk costs and lock-in effect enhance flexibility in business decisions	12
Actuality - customers tend receive the latest software version	12
Innovation Ability - innovation ability can be enhanced (e.g. quick integration of new functionality)	11
Helpdesk Quality - SaaS providers typically provide higher helpdesk quality due to competition	10
Ease of Use - SaaS solutions are typically designed for a variety of backgrounds and therefore need to be highly usable	10
Availability - percentage to which the service is usable, typically there are less downtimes with a provider than with an inhouse solution	9
Mobility - software can be used from various locations	9
Data Security - reason to decline SaaS or lead to higher protection against attacks than inhouse, provider usually has high security know-how	8
Higher Investment Security - limited risk associated to spending of high amounts for qualitative poor services	7
Replacement of Old Infrastructure - customer does not need to invest in modernizing his infrastructure	3
Energy Savings - overall energy savings, provider uses less energy than in-house	3
Accounting Benefits - reduction of temporal profit and therefore decrease of tax load	1

Table 2.3: most relevant value propositions for a successful SaaS solution (Walther et al., 2012, p. 8)

Chapter 3

Research Process and Methods

As established in section 2.6, a user-centered design approach seems to suit conversion rate optimization projects well as both share many common ideas. Therefore, the overall approach of this thesis follows this combination of CRO and UCD. Based on that idea, this chapter walks the reader through the overall research process and methods used to conduct the empirical part of this study.

3.1 Specifying the Context of Use

As Tomlin (2018) explains, to optimize a webpage, it is important to first gain an understanding of its visitors. This can be done by identifying the varying types of users visiting the page. Tomlin (2018) categorizes visitors based on the needs and tasks they aim to accomplish on the page. Creating these different visitor groups can be realized by using existing knowledge about the visitors (Ash et al., 2012).

Accordingly, the empirical work of this thesis started with identifying the key visitor groups of the service webpage. This was realized by organizing a workshop with Aiven stakeholders from marketing, sales and engineering aiming to determine relevant types of visitors based on the stakeholders' existing customer knowledge. For this purpose, a visitor group template was created, depicted in Figure 3.1, to facilitate the step of defining the different groups. The template is based on a canvas from the Lean Service Creation toolkit (Sarvas et al., 2017). The group name briefly summarizes the identity of a group, which makes it easy when referring to a particular group. The description contains any relevant characteristics defining the group. The problems describe the challenges or tasks this group typically needs to solve or perform, therefore also including needs common for this group. The busi-

ness impact expresses how large the monetary gains usually are from that particular visitor group. The impact is based on past experiences of Aiven sales stakeholders.

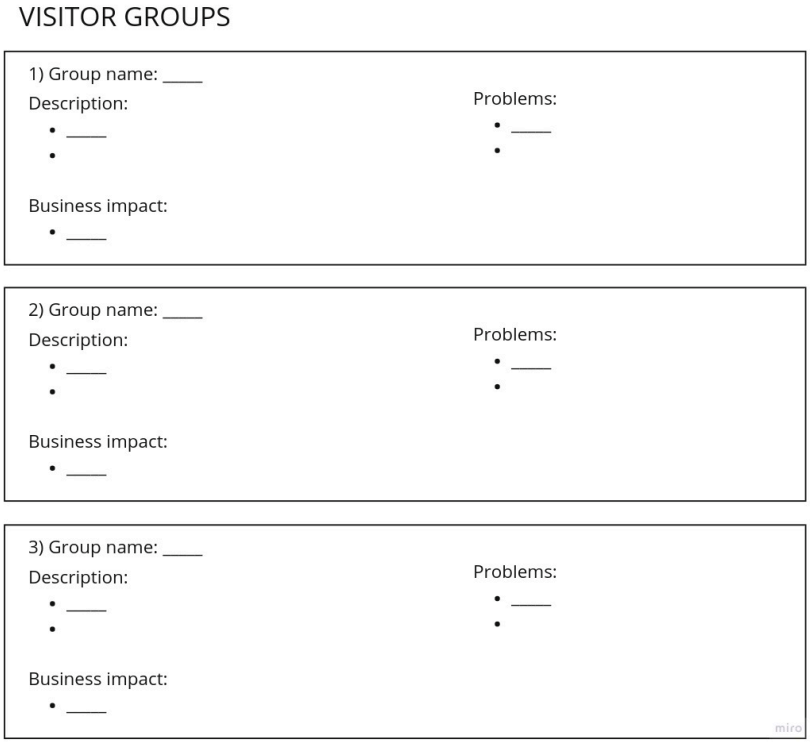


Figure 3.1: Template for defining visitor groups

Through discussion amongst the Aiven stakeholders, the template was completed resulting in the three groups depicted in Figure 3.2 below. The first profile describes the *Senior Developer*, that typically functions as a decision maker in a team that they oversee. They mostly do not have the final decision power, however they possess a lot of technical knowledge, which allows them to evaluate technical solutions and strongly influence higher-ups through their assessment. There are several tasks this group commonly aims to accomplish. They need to be able to evaluate potential solutions technically and take them into use as quickly as possible. Therefore, they require quick support and access to necessary resources, such as the documentation. Usually, they bring many small deals to Aiven. This is because they can often make decisions for smaller projects, however they themselves cannot decide on large and costly projects. The second group defines the *Project manager*, which typically holds a leading position and has independent de-

cision power over project or product resources. In smaller companies they could also be CTOs or merging with the role of the *Senior Developer*. They understand the bigger picture of the business problem and manage budget and resources. Often, they are less technical than *Senior Developers* and are therefore dependent on the developers' technical input. It is in the *Project Manager*'s interest to have a functioning Aiven service running in the least amount of time. They are cost-sensitive, bearing the maximum cost of the solution in mind. They want to be able to easily compare different solutions on a high-level and ensure that all requirements, both commercial and technical, are fulfilled. They are also concerned with solution compliance. The business impact they typically generate is large, as they close the most sizable deals. Lastly, the *Junior Developer* represents a group of visitors that are mostly responsible for later building the solution using Aiven's service. For that purpose, they predominantly visit the website to obtain necessary information and are seldomly or little involved in the decision making process of choosing the solution. When they have technical problems which they seek to solve, they need to be able to find the answer easily and be able to rely on Aiven support. Often, they do not have any visible influence on business revenue for Aiven.

3.2 Visitor Research

As elaborated in section 1.2, the goal of this study is to identify visitor needs and their path to conversion when evaluating a SaaS service online with the goal to increase conversion. The visitor is a person affiliated with a company in search of a solution to an internal business challenge, to which the SaaS service can provide a solution.

The idea is to research visitors' current approaches of choosing such a solution. This means understanding their journey from realizing their own internal challenges until selecting an adequate solution. If this journey is understood, it can be inferred what these visitors would need on the service page itself, regardless of how the existing page is designed. This approach aims to reduce answers biased by the current page.

The method chosen to investigate this journey is semi-structured interviewing. Semi-structured interviewing is a form of interviewing, where the interviewer asks the interview participant predefined open-ended questions in order to collect qualitative data (Ayres, 2012; Wengraf, 2001). This type of interviewing technique is selected as it allows to react to the participant's responses during the interview flexibly and pose more related questions to attain additional information when necessary. Accordingly, by applying this

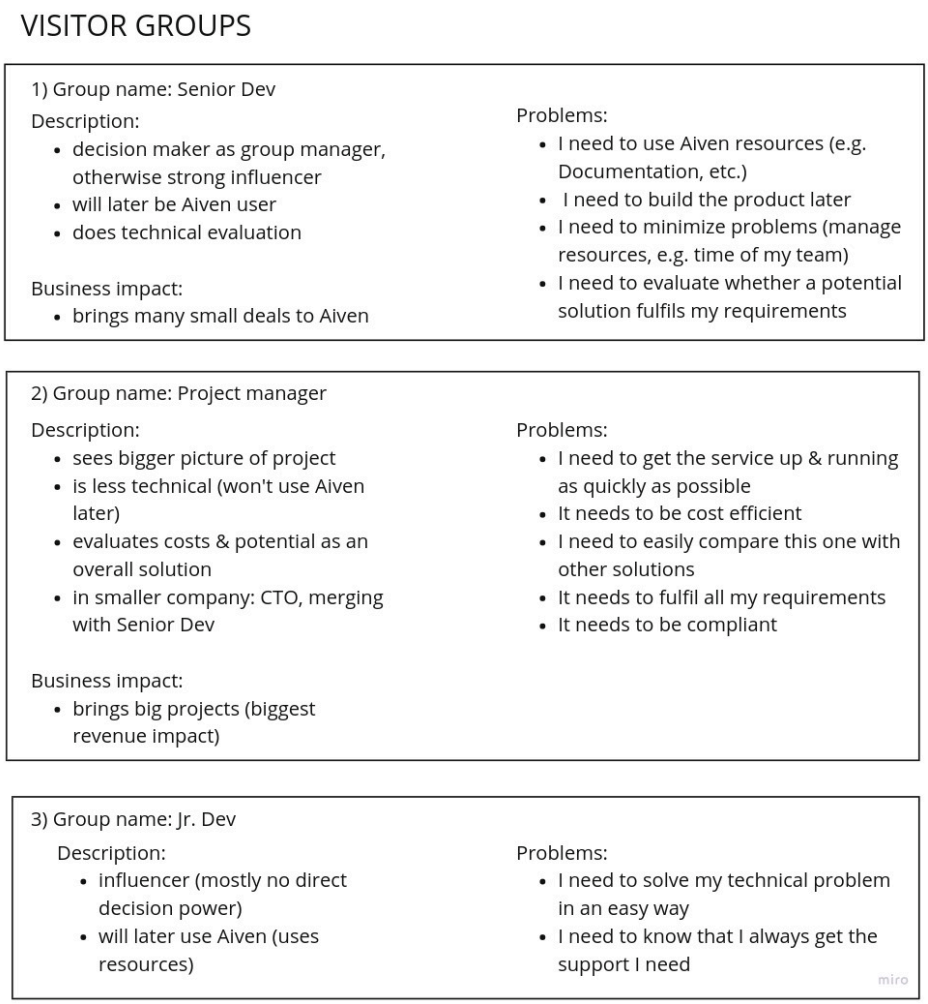


Figure 3.2: Identified visitor groups

technique, discussed topics can be investigated deeply, which in turn means that more information can be uncovered than by using structured interviewing with predefined questions (Ayres, 2012).

In addition to researching visitors' solution selection journey through interviewing, their experience with the existing service page is researched. From a UCD perspective, in case there is an existing system, we can utilize that system to learn about user needs and current shortcomings (SFS Finnish Standards Association, 2019). Consequently, the visitor experience on the existing page is researched to comprehend how well the page satisfies the needs expressed in the interviews but also to gather additional needs in

context. For this purpose, this study uses an approach similar to retrospective testing. As defined by Nielsen (1993), retrospective testing is a type of usability testing, where users first performs given usability tasks. During that time, they are video-recorded. Afterwards, the user is asked to provide comments as he reviews the recording. This type of testing is chosen as it is challenging to research website visitors at a sufficient depth as they are spending time on the page. Nielsen describes that retrospective testing is especially useful in such situations where "representative test users are difficult to get a hold of" (Nielsen, 1993, p. 199). The difference between my testing approach and traditional retrospective testing is that the participants have performed the interaction with the page prior to the page testing. Thus, no video recording of their interaction is available. This means the participants recall the memory of their thoughts and actions as they were using the page, which is triggered by viewing the page again and through questions by the interviewer.

In summary, a combination of both these methods is selected as they complement each other. The interviews are free from bias of the to-be-tested page, yet, participants bias the information they give consciously or subconsciously. Testing biases through the webpage context but also helps express needs through and in context. In the following, it will be detailed how these two methods are applied. For the purpose of more efficient reading, when discussing interviewing, it is with reference to both semi-structured interviewing and retrospective testing.

3.2.1 Choosing Suitable Participants

As the methods employed in this study are of qualitative nature and thereby time-consuming, within the scope of this thesis only a set amount of individuals can be interviewed. In order to be able to find patterns or overlap in the participants' answers, the interviews should focus on participants representing one of the identified visitors groups only. Without a focus, interview results are likely to be more scattered and drawing conclusions that are reliable enough becomes difficult. In a second workshop, company stakeholders from marketing and sales were invited to identify suitable interview candidates. This both included choosing one visitor group as a focus and defining what characterizes an ideal interview candidate. Based on the chosen visitor group, an ideal candidate profile could then be used to find participants to recruit. Based on Tomlin (2018), using a predefined visitor group helps identify and recruit suitable candidates for testing, which will make findings more valid. The reason for that is that the participants match the targeted visitor group as closely as possible.

To make the discussion efficient, relevant categories for candidate profiling were identified beforehand. These categories were independent from the visitor group itself. They are illustrated in Table 3.1.

Status is an important category as the website shall be optimized for high-intent visitors later, i.e. visitors who have a serious interest in finding a solution to their problem and need or want to act soon. We assumed to have the best chances to identify high-intent visitors from visitors that have recently signed up to trial the service, have recently contacted us for an introduction call or have recently become paying customers, as all those groups demonstrate high purchase intent. Additionally we could have considered page visitors that have not contacted us nor signed up nor converted after trial. However, these kinds of visitors are hard to recruit. We do not have any way to contact a website visitor without contact data and as for the latter visitors, they have presumably very little interest in giving an interview. The role corresponds to the visitor group that the participants should belong to.

Kafka knowledge describes how familiar they are with the technology the service sells. This has an impact on how well they are able to understand page content and interact with the page in general.

The company background, namely size and location, refer to the size of businesses we would like to concentrate on attracting the most. The location describes where the business that the visitor is connected with is located. This is of interest since we can later analyze whether there are any differences in visitors needs based on location.

Recency is very crucial for a suitable interview candidate. As we want to ask candidates questions about their previous experience on the service webpage, the more recently they have visited the page, the better they could recall and verbalize their experiences. Thereby the more valid the data gathered in the interviews will be. As we have no exact way of knowing when candidates have visited the webpage, we count the days that have passed since the date of sign up as a measure for recency. This is because visitors need to visit the website in order to sign up for a trial. Lastly, the candidate's involvement in choosing a suitable solution to their problem is relevant. For example, if candidates were evaluating solutions themselves, they are more likely to have visited the service page in question personally, such that they could be interviewed about that particular experience. In contrast, someone that found the service webpage, but did not visit it would be much less relevant as an interview candidate.

In the discussion, we first decided on the main visitor group to interview. The chosen target group for the interviews was the *Senior Developer* as first priority, and potentially the *Product Manager* as second priority. The reason

Category	**Possible values or description**
Status	Current customer | in trial | other (e.g. pre-trial)
Role	Implementer | Influencer | Decision maker
Kafka knowledge	None (0) to extensive (5)
Company size & location	Startup/Small business | Medium-large | Enterprise EU | US | Rest of the World (RoW)
Recency	Time passed since sign up (in days)
Involvement	Level of involvement in the evaluation process and usage of service webpage

Table 3.1: Categories to identify ideal interview candidates

for this was that while *Product Manager*s have the greatest revenue impact, our solution still aims to target more technically versed visitors first, which have the influential power to impact the *Product Manager*'s choice.

Subsequently, we identified which other attributes visitors from that group would require in order to be able to answer the interview questions. Finally, the ideal interview candidate was defined as:

- *Status*: companies that recently became Aiven customers, are in trial or pre-trial
- *Role*: Influencer (Senior Developer)
- *Kafka knowledge*: some (1) to extensive (5) (varying)
- *Company size*: Medium-large to Enterprise
- *Company location*: EU and US (about equal ratio)
- *Recency*: signed up in the last 3 months at maximum
- *Involvement*: has been actively involved in the evaluation process, has evaluated us based on our website, first to sign up from that company('s team)

The aim was to recruit about three to five participants for the interviews with a fairly equal split between European and American companies. In case it would be too challenging to recruit enough participants from this group in the given time frame, we could loosen the requirements and, for example, reach out to people whose recency was above 90 days - although not before February 2018 -, small businesses or startups or local businesses, i.e. in the Helsinki region.

3.2.2 Recruiting Suitable Participants

To recruit participants that fit the profile of an ideal interview candidate, the details of the promising contacts from Aiven's Customer-Relationship-Management (CRM) system were disstilled into a list. Each contact included the relevant categories for identifying a suitable candidate:

- Company
- Company size (small, medium, large)
- Company location (EU or US)
- Customer status (pre-evaluating, i.e. has not signed up, trialing, paying customer)
- Person that signed up (meaning they visited our website at least in some way)
- Role of the person that signed up (managerial, sr. dev, jr. dev)
- Date of sign up or contact established (recency)

In the next step, these contacts were reviewed with a sales stakeholder to identify who we could and should ask for an interview. Next, a brief description about the purpose of the interview was provided to two sales representatives. They then contacted the customer contacts they were managing via email to invite them for an interview. Each sales representative reached out to five relevant contacts, i.e. in total 10 candidates were contacted by sales.

In addition to that, I contacted those customers or trial users with which the company does not have a strong sales relationship, e.g. because the customers never contacted sales but started to use or trial the service through self-service. A recruiting message that was aimed to engage candidates without an active relationship was drafted. This meant the email could not rely on trust or a good relation formed by sales but on another value proposition.

Therefore, I focused on an engaging subject line and an attractive value proposition in the email itself. To find out how to best write the email, benchmarks of how others had recruited participants for usability research by email were conducted. The email was also aimed to make signing up for an interview as simple as possible by using doodle, an online time slot booking system, to schedule a suitable time for an interview. Finally, the email was reviewed by sales and design representatives. The email content can be found in Appendix A. This email was then sent out to five more candidates.

From the email that was sent out by sales, seven out of 10 contacts replied, out of which six agreed to an interview. From the five emails sent out to contacts without particularly strong sales relationships, four emails were opened but no one replied.

After the recruiting emails were sent out, the incoming emails were thanked for their interest and our appreciation was expressed. The content of the was explained more in detail and a suitable time slot was inquired. Once a suitable time slot was found, calendar invites with a link to join a remote video call were sent and participants were asked for their consent to record the call and share their screens. The recruited interview participants and their business's backgrounds are detailed in Table 3.2.

ID	**Status**	**Company sector**	**Company size**	**Location**	**Recency (days)**	**Role**	**Kafka experience**
#1	Pre-evaluating	Retail	Large	EU	22	DevOps Engineer	3.5/5
#2	Trialing	Media	Large	EU	about 75	Software Engineer	4/5
#3	Recently converted	Media Technology	Medium	US/EU	27	Sr. Software Engineer	3/5
#4	Recently converted	Energy	Medium	US	61	Sr. Software Engineer	2.5/5
#5	Recently converted	Logistics	Medium	US	37	Sr. Software Engineer	2.5/5
#6	Recently converted	Financing	Medium	US	115	DevOps Engineer	?

Table 3.2: Individual and company background of interview participants

As desired, there is about a 50:50 split of EU and US companies, all interviewees are Sr. Software Developers that have varying amounts of decision power but all are very strong influencers. They are people that have been heavily involved in the process, as they signed up for the service as the first from their company. Almost all of them are within the max of 90 days recency and are from a diversity of differing kafka experience levels, yet with at least a minimum familiarity. They are affiliated with medium to large companies and are either evaluating us (signed up during trial or pre-evaluating) or have recently become paying customers.

3.2.3 Interview Preparation

Before conducting the actual interviews, it is necessary to prepare by creating an interview guide containing all the questions (Brinck et al., 2001). According to Brinck et al. (2001), it is useful to ask interviewees about website content as well as look and feel, such as:

- What do you want from the website?
- Why are you visiting it?
- What features do you find beneficial?
- What is of use to?
- What do you think of layout, color, ease of use, appeal?
- What impression does the website create about the brand? e.g. professional vs. personal, traditional vs. futuristic, objective vs. subjective, conservative vs. daring

Tomlin (2018) complements with more usability related questions, such as:

- What of things you came to do can or can you not do?
- What is confusing or concerning?
- Are your expectations of the website met? Why/Why not?

Guided by these recommendations and a collection of questions that Aiven stakeholders had been interested to ask, I first noted down the core questions that should be answered in the interviews. Those questions revolved around topics such as:

- Background questions to build an idea of the interviewee and their context and get the discussion started
- The company's or representative's approach to finding and evaluating different service solutions
- Questions directly concerning the service page around first impression, page content and clarity as well as perceived value proposition and finding desired information
- The final decision making process about choosing a solution and the involved stakeholders

Afterwards, the full interview script was created, including the intro and debrief of the interviewee, that should frame the main interview questions. As explained by Nielsen (1993), before starting the actual interview, the interviewer first welcomes the interviewee and briefly explains the purpose of the meeting followed by the discussion procedure. Other typical elements to include are:

- pointing out that the participation is voluntary and can be stopped at any point
- clarifying the purpose of interview recordings and
- inviting the interviewee to ask any questions before the start of the interview (Nielsen, 1993).

Once the introduction is completed, the interview can proceed to the conversational part. To make the interviewee feel more comfortable during the conversation, Brinck et al. (2001) suggest starting the interview procedure by getting to know the interviewee through simple introductory questions. When the main interview questions have been asked, Nielsen (1993) explains, the interview can be concluded by debriefing the interviewee. During debriefing, the interviewee is invited to provide any comments or suggestions for improvement. Those can grant additional ideas for the later redesign (Nielsen, 1993).

The intro welcomes the interviewee and describes the interview's goal. It invites the interviewee to ask any questions regarding the upcoming discussion and notifies that it is possible to stop the interview at any time. In the debriefing part, the participant is asked about any comments or suggestions for the webpage, he is thanked for the interview and informed that the interviewer would follow up with them via email regarding compensation for their participation.

The initial set of interview questions were reviewed by Aiven's marketing stakeholder, who provided useful tips on how to logically structure the interview and how to reword interview questions such that the interviewees would be able to answer them more easily. The idea was to formulate the questions such that the interviewee could immediately answer the questions that were asked in an intuitive way. Consequently, it would trigger their memory more easily. The finalized interview guide including questions and script can be found in Appendix B.

3.2.4 Conducting Interviews

For conducting the actual interviews, before each interview I read through a summary of the customer history with Aiven to recall the company's situation. Additionally, questions dependent on the interviewee's case were added to the script. According to Nielsen (1993), before starting, the interviewer should make sure that the room and any technical devices needed for the interview are ready and all necessary materials are available. Consequently, I prepared the interview setup by making a room reservation, testing the remote calling software and opening the interview guide on my computer prior to the interviews.

All interviews were conducted remotely via Google Hangouts Meet (Google, 2017) (Figure 3.3) and recorded with QuickTime Player (Apple Inc., 1991). Except for one recording, partially the screen and partially only voice is recorded due to the interviewees wishes not to record a shared shreen. All interviews were between 35 minutes and two hours long with a median of one hour, depending on the depth of the conversation and interviewee's amount of experience regarding the questions.

Directly after an interview, Nielsen (1993) suggests writing a short summary while "the events are still fresh in the experimenter's mind" (Nielsen, 1993, p. 191). Thus, immediately after every interview, notes about the conversation were taken mentioning everything that I could still recall from the conversation. This delivered a summarized version of each interview.

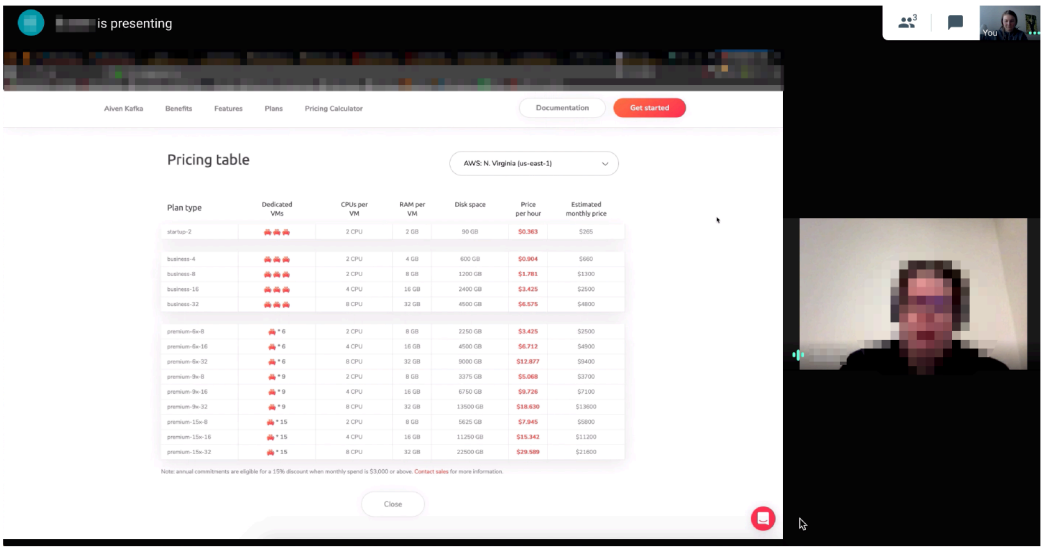


Figure 3.3: Example of interview setting via Google Hangouts Meet

3.3 Research Analysis

As observed with Blanks and Jesson (2017) and Tomlin (2018) in section 2.6, once visitor data is gathered, the next step is to analyze it. This section describes how the data received through the interviews was analyzed. Subsequently, a broader understanding of the analysis findings was gained by mapping them onto a typical prospect's journey.

3.3.1 Interview Transcription

After all interviews were conducted, they were transcribed to allow for an in-depth analysis. As mentioned previously, interview summaries were created right after each interview, which could be used for analysis. However, a great deal of information is lost when merely utilizing those summaries. Furthermore, they might contain incorrect interpretations. Adding to that, in order to properly inspect data, all analysis should be based on the same depth of data, i.e. using fulltext transcriptions. Performing data analysis with summaries can create the impression that the findings lack a certain depth due to which they are not as reliable when informing design decisions. Two of the six interviews which were conducted in German were transcribed manually. The remaining four, conducted in English, could be automatically pre-transcribed with Temi (Temi, 2017), a speech-to-text transcription tool, after which they were re-edited manually. Using the transcription tool accelerated the transcription process. During the transcription, any arising comments or ideas were noted down in order to capture all impressions generated by the analysis process.

3.3.2 Interview Analysis

The approach utilized for this interview analysis is based on Taylor-Powell and Renner's (2003) process for analyzing qualitative data. It was interpreted and adjusted for this study as seen fit. The tool used to facilitate analysis is Atlas.ti, a scientific software to aid data analysis in terms of speed, consistency, precision (Dowling, 2012). All interview transcripts were imported into the software.

In the first step, Taylor-Powell and Renner (2003) suggest getting to know the data, i.e. reading through or listening to the text several times and collecting any impressions emerging. It is also advisable to realize the limitations of the data and decide which level of analysis is adequate for the analysis. In the second step, the analysis is focused by considering the

purpose of the analysis as well as how the results should be used and by listing key questions to answer (Taylor-Powell and Renner, 2003).

After reading through the transcripts adding any arising impressions and identifying data limitations, the purpose of the analysis and the usage of the results was reviewed. To recall, the higher goal is to use the results for ideating an improved page design. Consequently, while analyzing text paragraphs within or between topics, it is desired to detect opportunities for improvement based on the needs that are expressed in the data. This means, the ideal end result of the data analysis are tagged needs and the relation between them, i.e. how do different needs affect each other. Next, key topics containing relevant questions that the analysis aims to answer were listed. Those are the following:

1. Navigation: What usability flaws are there in the current website and how to address them? How to develop an optimal page flow logical for the target users (thus leading to conversion)?

2. Content: What content is relevant for conversion/service consideration? What's already there and what is missing? What's irrelevant?

3. Understanding/Value Proposition: How clearly are things communicated (trial, value prop, service)?

4. Conversion: What makes visitors sign up and what holds them back - use to improve flow and content

5. Patterns: How to profile the individual interviews?

Based on the topics and questions, a list of pre-set high-level categories was created.

- EVAL PROC (evaluation process)
    - BIZ PROB (business problem)
    - COMP (alternative comparison)
    - DISCRVY (solution discovery)
    - FIN DEC (final decision making)
    - INT PROC (internal solution adoption process)
    - REQS (solution requirements)
    - RSN WHY NEW (reason why looking for a new solution-if old existing)

- KAFKA PAGE
    - 1st LOOK (first impression)
    - BETR (how to improve)
    - C REFS (customer references)
    - DOC (documentation)
    - FEATS (features)
    - FST IMPR
    - PAGE FLW (page flow)
    - PLA (plans)
    - PRI (pricing)
    - SLA (service level agreement)
    - UNDST SERV (understanding of service)
    - UNDST TRI (understanding of trial
- PROFILE
- #EVAL (number of evaluators)
    - KEXP (experience with Kafka)
    - TEAM CTXT (team context)
- SU (sign up)
    - BARR (barriers)
    - MOT (motivations/enablers)
- TRIL (service trial)

In the third step, Taylor-Powell and Renner (2003) suggest categorizing the data. This process is also referred to as coding, where text snippets or words are tagged with so-called codes, or according to Taylor-Powell and Renner (2003), categories.

In total, three iterations were performed to code the data and gain insight. In the first iteration, all interviews were examined, coding one paragraph at a time by using the predefined list of codes above. As an example, the following paragraph was coded with the category “C REFS”, standing for “customer references”.

> "So, I guess, honest answer, the whole ratings part [highlights the capterra ratings section], I just kind of ignored because I don't, like, I've never heard of this company before [points at capterra logo] and so I was like, they're just putting up some random rating and so that didn't really influence me one way or another. Yeah. Okay. Um, and then yeah, this like plan adjusters thing [scrolled to pricing calculator] wasn't any use at all. Um, or I didn't look at it at all. I just went straight to like the chart. Yeah. I think that's about it. Most of it seemed pretty good."

The second iteration focused on one high-level category at a time, reading through all corresponding text snippets and identifying sub-categories, so-called "emergent categories" (Taylor-Powell and Renner, 2003), until all high-level categories were considered. In doing so, more and more refined sub-categories were added to the initial list of codes. As an example, the following sentence was annotated with the more detailed codes "Capterra ratings" and "Low value information".

> "So, I guess, honest answer, the whole ratings part [highlights the capterra ratings section], I just kind of ignored because I don't, like, I've never heard of this company before [points at capterra logo] and so I was like, they're just putting up some random rating and so that didn't really influence me one way or another."

The 3rd iteration inspected all the sub-codes and differentiated them even further. Here, I created new codes that would not only describe a category, but also contain a brief problem or standpoint description, e.g. see the following phrases and added codes, respectively:

> "so I was like, they're just putting up some random rating"

coded with "interpreted as one customer rating"

> "I just kind of ignored because I don't, like, I've never heard of this company before [points at capterra logo]"

coded with "logo doesn't trigger anything (no value)"

> "I just kind of ignored because"

coded with "being ignored"

The fourth step in Taylor-Powell and Renner's (2003) approach is to find relationships and patterns, which already commences during the third step. As data is organized into categories, patterns and connections between codes

can be observed. For that purpose, I created code graphs to see connections between the various codes. The main challenge here was that there was such a vast amount of codes (500+) that it was impossible to comprehend the relations in the graphs, even when only displaying a subset of the codes. For this reason, the suggestions made by Taylor-Powell and Renner (2003) were not very appropriate for my approach. Alternatively, after having coded all data to a sufficient amount of detail, I investigated the lowest-level codes and deducted visitor needs that were expressed by these codes. This is also more aligned with the initial goal of the data analysis.

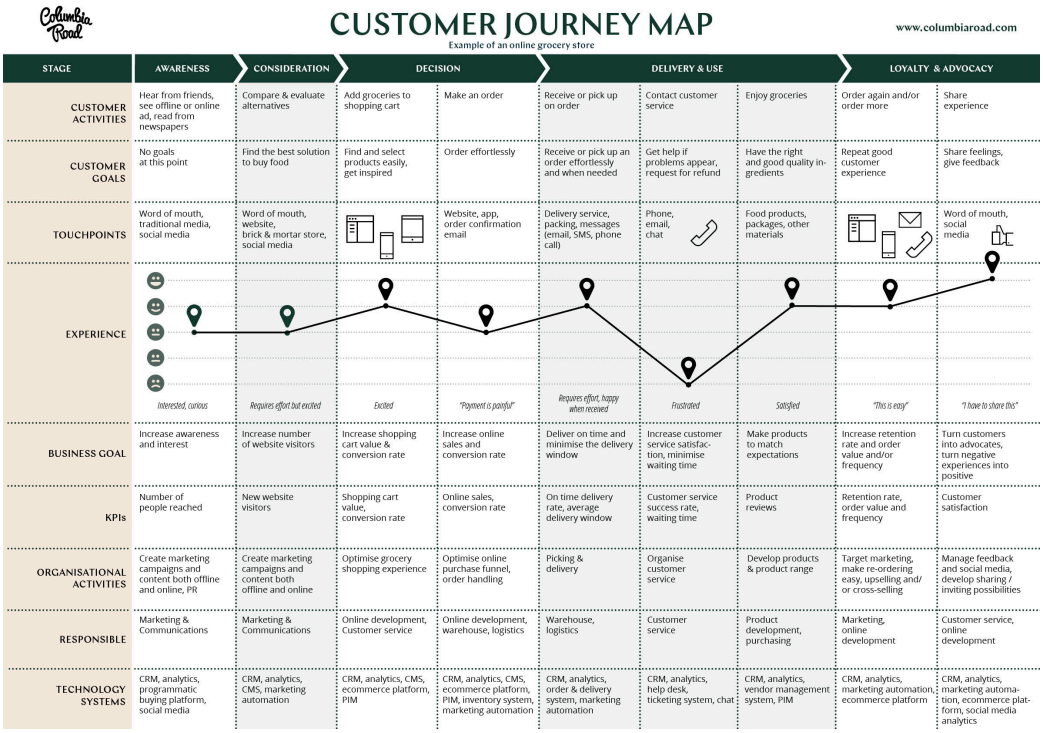
3.3.3 Customer Journey Mapping

The preceding interview analysis delivered a solid understanding of what visitors need on the service page. However, it falls short to create a proper comprehension of visitors' step-by-step thinking. As the goal of this study is likewise to understand the visitor mindset when evaluating the page, it is necessary to examine the visitors' experience on the page step by step. The chosen method to accomplish this is customer journey mapping (CJM).

In order to grasp why customer journey maps are such a useful tool when wanting to understand customer conversion behavior, in the following, the connection between CJMs and conversion thinking will be illustrated. Kalbach (2018) points out that "the decision to make a purchase is typically seen as a funnel" (Kalbach, 2018, "The conversion funnel" section, para. 1). A funnel is usually composed out of several rather sequential steps or phases, that a potential customer, also called prospect, follows along until making a purchase. However, at various points of this funnel, the prospect can decide to leave, thus decreasing total conversion (Kalbach, 2018). Consequently, in order to increase conversion, the steps along the path that the prospect takes need to be well understood, such that every time doubts exist, these are addressed, therefore resulting in more prospects converting. This comparison illustrates how important it is to understand prospects' mindsets, i.e. ways of thinking, throughout their journey of interactions with a product or service. In the following, the term visitor journey map will be used when referring to CJMs as the term is more suitable for this study.

When creating visitor journey maps, the journey can be considered from various different viewpoints, e.g. from the visible actions the visitor takes, their thoughts or their emotions and so forth. An example for such a journey map, similar to the one created in this thesis, is presented in Figure 3.4. Utilizing the interview findings, including visitor needs, along with typical visitor questions based on Blanks and Jesson (2017), a visitor journey map was created. The journey map analysed visitor actions, visitor goals, visitor

questions, visitor thoughts, touchpoints, visitor experience, visitor needs, and improvement opportunities. The entire map can be viewed in section 4.2.2 and in Appendix C in a digitized form.



Columbia Road

CUSTOMER JOURNEY MAP

Example of an online grocery store

www.columbiaroad.com

STAGE	AWARENESS	CONSIDERATION	DECISION		DELIVERY & USE			LOYALTY & ADVOCACY	
CUSTOMER ACTIVITIES	Hear from friends, see offline or online ad, read from newspapers	Compare & evaluate alternatives	Add groceries to shopping cart	Make an order	Receive or pick up on order	Contact customer service	Enjoy groceries	Order again and/or order more	Share experience
CUSTOMER GOALS	No goals at this point	Find the best solution to buy food	Find and select products easily, get inspired	Order effortlessly	Receive or pick up an order effortlessly and when needed	Get help if problems appear, request for refund	Have the right and good quality ingredients	Repeat good customer experience	Share feelings, give feedback
TOUCHPOINTS	Word of mouth, traditional media, social media	Word of mouth, website, brick & mortar store, social media		Website, app, order confirmation email	Delivery service, packing, messages (email, SMS, phone call)	Phone, email, chat	Food products, packages, other materials		Word of mouth, social media
EXPERIENCE	*Interested, curious*	*Requires effort but excited*	*Excited*	*"Payment is painful"*	*Requires effort, happy when received*	*Frustrated*	*Satisfied*	*"This is easy"*	*"I have to share this"*
BUSINESS GOAL	Increase awareness and interest	Increase number of website visitors	Increase shopping cart value & conversion rate	Increase online sales and conversion rate	Deliver on time and minimise the delivery window	Increase customer service satisfaction, minimise waiting time	Make products to match expectations	Increase retention rate and order value and/or frequency	Turn customers into advocates, turn negative experiences into positive
KPIs	Number of people reached	New website visitors	Shopping cart value, conversion rate	Online sales, conversion rate	On time delivery rate, average delivery window	Customer service success rate, waiting time	Product reviews	Retention rate, order value and frequency	Customer satisfaction
ORGANISATIONAL ACTIVITIES	Create marketing campaigns and content both offline and online, PR	Create marketing campaigns and content both offline and online	Optimise grocery shopping experience	Optimise online purchase funnel, order handling	Picking & delivery	Organise customer service	Develop products & product range	Target marketing, make re-ordering easy, upselling and/or cross-selling	Manage feedback and social media, develop sharing / inviting possibilities
RESPONSIBLE	Marketing & Communications	Marketing & Communications	Online development, Customer service	Online development, warehouse, logistics	Warehouse, logistics	Customer service	Product development, purchasing	Marketing, online development	Customer service, online development
TECHNOLOGY SYSTEMS	CRM, analytics, programmatic buying platform, social media	CRM, analytics, CMS, marketing automation	CRM, analytics, CMS, ecommerce platform, PIM	CRM, analytics, CMS, ecommerce platform, PIM, inventory system, marketing automation	CRM, analytics, order & delivery system, marketing automation	CRM, analytics, help desk, ticketing system, chat	CRM, analytics, vendor management system, PIM	CRM, analytics, marketing automation, ecommerce platform	CRM, analytics, marketing automation, ecommerce platform, social media analytics

Figure 3.4: Example of a customer journey map (Tervala, 2017)

Chapter 4

Results

4.1 Visitor Needs

This section summarizes the types of needs identified through data analysis described in section 3.3.2. Due to the elements "naturally" present on a SaaS service page, several need types related to these elements automatically emerged. These are, for example, elements or sections of the service page containing information regarding service features, available service plans and respective pricing, customer references and others.

Features

Regarding service features, one of the most relevant aspects was the integration of the service with the customer's existing software landscape. One interview participant explained that they would like to understand how the service could be integrated before trying it: *"I would first like to see how I could integrate this into my existing service landscape." (#1).* Two other participants expressed their interest in checking the availability of specific integrations before trialing the service. The importance of mentioning particularly relevant available integrations on the page was also emphasized by one participant. He further explained that it was desirable to make the available integrations easily recognizable by positioning them early on or by displaying their logos: *"put your other things that you integrate with kind of front and center" (#5).* The importance of early positioning was also confirmed by another participant explaining that they were supposedly relevant to most visitors. Two concrete visitor needs deduced from these statements are 1) to easily see available integrations, 2) to see available integrations early on within the page.

In terms of service security, data encryption, for example, was considered a strict requirement by one participant. This was defined as a need for service security through data encryption. Furthermore, three participants stated that Virtual-Private-Cloud (VPC) peering was a requirement. However, contrary to their expectations it was not listed amongst the other service features. The resulting need was to see that easy data handling through VPC peering is available. Regarding service reliability, a participant from yet another company expressed the importance of multiple Availability Zones (AZ) for his company. Furthermore, he expected this feature to be listed with other service features, which it was not. Accordingly, the need to be convinced of service reliability through the availability of multiple AZs was defined. Concerning service accessibility, one participant mentioned his interest in Terraform support. This was translated into the need to see that Terraform is offered.

These findings clarify which of the service features are considered most relevant to webpage visitors. They also highlight the challenges they might face regarding those, e.g. difficulty of finding them quickly and easily. Moreover, participants commented that they would like to have easy access to a summary of all available features with the most relevant features at the top of the feature summary. Thus, the determined needs were to see a compact feature summary and features in relevant order.

Plans

In terms of service plans, one participant expressed the need to be able to easily see all technical parameters defining a plan, such as the number of virtual machines (VMs), memory, disk space and more. Another important task was to identify a suitable plan for the company's needs. The most typical way participants attempted to achieve this was by comparing the technical parameters of Aiven plans to those of their own clusters, which were either clusters they previously used in production or which they tested. This comparison allowed them to estimate which plan would best fulfill their performance requirements. In fact, five out of six participants approached finding a suitable plan this way. The emerging need is to be able to see multiple plans at the same time to be able to compare and approximate which is most suitable.

Custom plans

Additionally, participants were interested in plans outside the displayed options on the webpage. One participant reported that he had contacted

Aiven's sales because he desired a plan specification that was not listed on the page. Three other participants were interested in using plans that were detached from the disk space, as their storage needs might grow while the remaining cluster parameters, such as the number of CPUs and memory, would not: *"it would be really cool if the disk space was charged extra" (#1).* One participant provided more details on the reasoning explaining that his company appreciated the possibility to save older messages to be able to access them at a later point. Accordingly, storage needs would increase over time, while other specifications remained the same. The resulting need was to see a hint about custom plan options. Such a hint had already been displayed on the page, therefore it might be that the participants did not notice it.

Unclarities

Equally related to disk space is the need to clearly comprehend how much of it each plan includes. The way it is currently indicated on the webpage was confusing for two participants, as they were unsure whether the specified disk space was provided per VM or per cluster. Another participant expressed his wish to have an indication of what data throughput (megabytes per second) could be mapped to which of the plans. This defined the need to understand the connection between a plan and its estimated throughput. The last confusion regarding plans concerned the connection between tiers and plans. One participant was confused, as he had seen the detailed plans in one place and the tiers, which act like categories of plans, in another. This defined the need to understand the linkage between tiers and plans clearly.

Pricing

One of the most relevant factors for participants was pricing. For many SaaS solutions, pricing is closely related to plans. So naturally, comparing the pricing of Aiven plans to competitors' prices or the internal costs of running and managing databases in the cloud was essential to the participants. Again, based on their current costs or competitors' prices, participants were able to compare Aiven's pricing.

Ballpark pricing

One of the main initial concerns was determining the order of magnitude of the price for Aiven services. One participant explained that this concerns gaining an understanding of whether the pricing is either cheap, acceptable or completely exaggerated. He explains that often when evaluating enterprise

software, at first glance, the software appears to be great but later on he might discover that the price is not justified given the value the software provides. He explains *"before I make my mouth watery, so to speak, and look at everything and think how amazing it is, I first want to know whether the company can afford it and that is why the price list was actually the most important thing for me" (#1).* A price that is too high is a reason for him to directly discard the service as a viable solution, whereas he explains if the price is adequate *"at least the provider is qualified for the next round, so to say, such that you can take a closer look" (#1).* Furthermore, three other participants similarly explained that pricing is one of the first things for them to examine in order to know whether a solution is affordable for the company: *"I like immediately went and looked at plans and pricing" (#5).* Yet another participant explains that the pricing is *"not decisive ... as long as it's within a range, I mean it looks reasonable" (#2).*

Hidden pricing

The main critique regarding the current pricing, is that it is placed too far down on the page or is too hidden. Consequently, one participant never reached the pricing information. The reason for this was that he thought the page had ended. This led him to calculate the monthly service price manually by using the service costs provided on the Aiven web console. Likewise, one other participant reports that he mainly used the pricing information on the web console once he had created an account. Another participant explains *"for others, let's say, any technical websites or service providers, if someone says I want to know the price now, then he immediately gets to a price list and he does not have to go through all these steps [referring to Aiven webpage]" (#1).* A need arising from these findings is that the pricing information wants to be seen earlier or accessed more easily on the page. Apart from that, as explained in the plans section, participants often estimated the required plans and thus pricing by comparing available plans to their previous cluster needs. However, finding the right plan is still a challenge. One participant explains that *"the price is something different than for a liter of milk. It is not entirely trivial to find out the price" (#3).* Another participant explained that they *"did a lot according to safety principles, i.e. if in e-commerce e.g. we operate n clusters with 6 brokers, then we say ok in fulfillment we do that too because it worked well for them. We have no idea whether ... it is too much or too little, we just go for a 6er cluster and then we will see" (#1).* Above all, price overestimations might leave the customer thinking that the service is too expensive for them, while with proper consultation regarding plan sizes, the opposite might be the case. The derived need is to easily determine the

service's ballpark pricing.

Monthly vs. hourly

Regarding pricing needs, participants typically wished to see the monthly rather than the hourly pricing, which are currently both displayed. One participant mentioned that he was specifically looking for the pricing per *"month, like we're going to be buying like this 24, seven .... For me it was just like, I need a number to take to my CTO to get approval." (#6).* He explained, however, that seeing the hourly price he understood that the usage was billed based on hourly usage, which he considered useful information. Another participant argued that *"price-per-hour is not quite understandable for me but estimated monthly price is very understandable" (#1).* According to these findings, the need to see monthly pricing was determined.

Features, plans and prices

Lastly, in order to determine a price estimate, visitors require identifying the type of plan (tier), which includes all necessary features and that fits performance-wise. On the current page, however, the plan features and the plan performance and pricing are quite far apart from each other such that there is no quick and intuitive way to identify the price. The need that was derived from this was to determine pricing based on performance needs and features easily.

Social Proof

Customers

Desired social proof mainly stems from seeing what customers a business serves. One participant explained that he would find it helpful to see a listing of different customer brands, including their names and logos. This would allow him to see whether a company similar to themselves already uses the service. This would then indicate that the service is likely to be suitable for them as well. For this, he suggested displaying different customer brands from varying sizes, reaching from enterprises to startups. Recognizing known brands amongst the list of customers to which the visitor has some connection helps boost confidence in the new service, as three participants mentioned being influenced by respected brand names.

Customer testimonials

In addition to seeing different customers, one participant reported that he was interested in how these customers thought about the service. He mentioned that *"usually ... [the] software industry is a pretty nice place where mostly people give honest feedback ... [which] is kind of ... helpful" (#4)*. He recommended having a place for displaying feedback from several different customers. In addition, he pointed out that it was important to have at least some customer references in order to seem trustworthy. He mentioned that without any *"reviews, ... I thought maybe it's some sketch or something ... there are so many thousands of companies out there I might not know, it's funny actually ... the Internet. There's so many fake things. ... So you never know what is, what is true ... . It's hard to actually identify them" (#4)*. However, not only the existence of customer references matters but also the quality. The same participant emphasized that customer feedback should be critical, displaying both positive and negative aspects of a service, saying *"there [are] pros and cons in everything. ... So it would be nice to show some downsides as well. So then you know that these people are nice and these people are actually accepting the truth. When somebody is giving honest feedback, you actually trust them more" (#4)*. However, in general it was observed that the interview participants did not seem to be influenced by other customers' statements very heavily. It would influence them in some way but they would still want to evaluate the service themselves and trust their own judgement.

Case studies

One participant specifically expressed his interest in other customers' use cases, including aspects such as the technology used or business problems the solution solves.

Sign-up and Service Trial

If it looks like what I need, it is worth a try

Visitors have several different needs before deciding to sign up and test the service. The most prominent need is understanding what the service offers and whether it could be a suitable solution for their problem. One participant reported that he only reviewed the service intro at the very top of the page and available features and then directly signed up for a trial to test it out. He was not very interested in reading much more about the service saying that *"to be honest, the best impression is when you can start using*

the service and it just works. I have learned not to trust the fancy webpage that promises everything" (#2). He describes his mindset saying: *"I'm an engineer, I believe in facts not in what a webpage says" (#2).* Another participant describes a similar approach explaining *"if it was me personally, ... within that first hour, I would have been running something on your platform and trying it" (#6).* This feeling was re-enforced when he noticed that the trial was free. However, due to company regulations, he would need to address compliance questions first. Similar to the before mentioned participant he emphasized "I want to see if I can break it first. That's the first thing I do with any new tool is I try to break it." while disregarding the "marketing speak". Sometimes, it might already be enough that a service seems to provide the desired solution as one other participant clarifies: *"I don't do such evaluations very often ... and I'm happy when I find a service that does what I want it to do. And it looked like that" (#3).*

Technical requirements

One participant was ready to sign up for the service once he had identified a suitable plan such that their performance requirements were covered as well as having received help from Aiven support and determining that *"the price is pretty reasonable" (#4).* For yet another participant the most relevant criteria before signing up was checking that all necessary features were available: *"I still would have gone and scanned the site and seen that you have high availability, you have the VPC peering, you'll allow me to retain it [data] indefinitely. Cool. Sweet. And let's see how it works, right" (#6).* The other technical aspect that participants were interested in prior to sign-up were service integrations as mentioned above in the Features section.

Pricing-related

As described in the Pricing section, gaining an understanding for Aiven's price range compared to previous solutions or competitors was one of the most pressing needs for participants. Being asked what factors were important before making the decision to sign up, two participants concretely mentioned pricing or a reasonable pricing range.

Desired cloud

Upon asking what convinced participants to sign up, one participant specifically mentioned seeing that the cloud of their choice was available.

Compliance

Fulfilling certain compliance standards was mentioned once by one participant from a large German company. GDPR and ISO127 compliance were especially important.

Service access

Before signup, two participants were particularly interested in Terraform, which allows users to interact with their data infrastructure using high-level configurations. One participant further detailed that, to him, it was somewhat unclear how the service works and how the messaging system can be accessed compared to a self-managed messaging system: "As an engineer, I can only imagine, probably they have solved things like that at Aiven, but it's not really understandable". Thus, he would like to read a brief description about the service set-up: *"I would like to see an explanation, something like we operate our clusters on top of VMs in the Google Cloud, and then we peer the network that we have built there to your network and you can then reach it with your private IP, you just have to make the route, what do I know" (#1).* Without mentioning any critique, another participant similarly mentioned that he spent a fairly long time on the site trying to understand Aiven s' infrastructure after comprehending that *"you're just running a VPC on AWS" (#6).* While this topic is relevant to these two participants, one of them also highlighted that Aiven's service setup is *"potentially more than they [less technically knowledgeable visitors] actually want to know" (#6).*

Trial/Service practicalities

Regarding trial and/or service practicalities, four out of six participants highlighted that getting started with Aiven services was/is extremely simple and fast: *"it was very simple to set up a free trial, which was great." (#5)*; *"Our CEO here likes to say that speed is a habit. ... There was a bunch of stuff on my side that I had to [do]. But if I want to try your Kafka service, I can do so in less than five minutes. I can just create the account and create a cluster and go. Whereas, the kind of engagement with the sales teams at other places [competitor solutions] was a week or two at least" (#6).* This led this participant wanting to try Aiven's solution before any competitor's. He further explains *"[the] get started button is awesome because that kind of helps reinforce the fact that that's just a sign up page, [it] reinforces the kind of key differentiator between going through the enterprise sales team versus just, why don't you start by actually deploying some stuff, which was*

definitely pretty, pretty sweet.". About the sign-up process itself, one participant further comments *"the first hurdle, the registration, was very low. I think that's great, email, name is enough and then you're already in." (#3)*; while emphasizing that he found it especially likeable that the sign-up form did not request more information than really necessary. Once signed up, also creating and using a service was straightforward as one participant explained: *"I was very pleasantly surprised with how easy it was to set all of this stuff up once I got like a cluster spun up. It was like two clicks to set up data dog; VPC peering was also very simple" (#5).*

Three out of six participants further report that getting started is simplified even more due to the fact that no credit card is required for trialing the service. They expressed that they appreciated being able to start their trial with providing a credit card, which is not possible with most other providers. One advantage of this, as one participant explained, is that, once the trial is over but users forgot to stop the service, they are not charged as the service automatically stops with the end of the trial period. Another advantage, pointed out by a second participant, is that, especially in large companies, it is one hurdle less for being able to get started with the service. Specifically in this participant's case, providing company credit cards to employees for trying out new software is an unsolved problem. Thus, by not needing to provide a credit card at all to test Aiven's services, his company has one practical issue less when getting started. This can increase the solution acquiring process up to several months. Additionally, two participants explicitly mentioned that the free trial option motivated them to sign up: *"As soon as I saw, try now for free, . . . [if it had solely been my decision] I definitely would have just gone in and created a Kafka cluster and tried to connect to it" (#6).*

Furthermore, possessing flexibility for what service plans to use as opposed to being bound to a fixed long-term usage commitment was attractive to participants: *"one thing that was kind of big for us was the ability to scale up and down without a major contract. A lot of people that we work with, we have to sign year long contracts with. So it was really nice to find out with you guys, we could start at the business-4 plan and then, you know, if we needed to bump it up, it's just now like a couple of clicks and everything is up and we just start getting charged more. But there's no big contract to sign, which I think was really nice for me to go excel it to our finance and our CTO" (#5).*

Service testing

Some participants wanted to know how they could test our service before signing up. Particularly for one participant performing tests was a challenge, as he was unsure how to best test the service. He explains that his team would first like to have a concrete idea of how to test Aiven services before starting their trial. Furthermore, they want to know how to define success or failure of a test, i.e. how to evaluate it. They were unsure about a well-representative workload that Aiven services would need to be able to handle, thus unsure what performance would be required from the services. He describes this situation as not yet being ready as a customer for evaluating different services. Without having a clear understanding of their own technical requirements, he further details that they could of course sign up, create and tear down services, however that would not tell them much about how well the service could fulfill their needs.

Trial Concept

Providing a free trial is a strong motivator for visitors to sign up and start testing Aiven services. The interviews revealed that the trial concept was generally known to the participants from other types of services already. One participant, however, explains that knowing how the trial works in detail was not very crucial to him; more important was that the solution seemed relevant. It was not always clear to the participants that the trial lasts 30 days during which they could spend 300$ worth of credit; however, this was typically clarified when receiving informational emails regarding the trial or entering the service console, which displays the days and credits remaining for the trial. After entering the console, participants also understood that the trial would offer the full service functionality. As already touched on in section "Trial/Service practicalities" on the previous page, participants emphasized the ease of getting started with Aiven services. Being able to start testing the services independently by signing up on the platform, was described as a key differentiator from other similar providers. This process was described with the word "straightforward" by two participants.

Other

What to avoid (no-needs)

While understanding what visitors require from the page, it is also important to realize what they do not appreciate or require. In this regard, three out of six participants did not value any information about Kafka as a technology

itself. The reason for this is that they were already widely familiar with it and had decided or had a strong preference to use it, which is why they came to this page to find a solution using Kafka: *"that [Kafka information] wasn't very useful because I approached it more as like, do we want to use Kafka? And then I did all the research for that and then I was like, okay, yes we do. And so by the time I got here, I was like, . . . I already knew that we wanted to use this. And it wasn't like I needed to be convinced to use Kafka and basically got here being like, yeah, we should use it. . . . , seems kind of weird that someone would come here and start exploring without knowing what Kafka is first. I would assume most people landing on this page . . . already know that they want to use it" (#5).* Another participant clarifies that *"it does not have to be the marketing website's task" (#3)* to explain the technology. Thereby, information regarding what the technology is and why to use it, was only in the way of the information they actually wanted to access. Regarding the benefits of Kafka as a technology, one participant explains: *"Well, these key benefits, . . . , maybe a short video would be appropriate, . . . , maybe I would have even watched that" (#3).*

Secondly, the original service page contained a lot of duplicate information. For example, illustrating cloud providers and features that were available on all tiers, was unnecessary to information in the plan comparison table according to one participant.

Additional page content

There were a few items not present on the page that participants would have wished to access. One was the information about all available Kafka versions, that are supported by Aiven. The other was to get access to the documentation early on. While the documentation is accessible via the menu, one participant recommended adding a link to the service documentation close to the beginning of the page.

Clarity in design

One challenge on the current page was design clarity. As described before, one participant never found the pricing table. The reason for that was that at a certain point on the page, he thought the page was ending, so he did not continue to scroll further down where the pricing was displayed. His false interpretation was caused by the unclarity in the page design.

4.2 Visitor's Path to Conversion

After the data analysis (section 3.3.2), the interview findings were used to create a visitor journey map (section 3.3.3). This journey map reflects the typical visitor's path to conversion, which is described in this section. First, their conversion path is presented from a broader perspective, which is referred to as the company's decision making process for choosing a solution. Second, the visitor's way of thinking and his experiences on the solution's webpage will be depicted, thus focusing more specifically on the "on-page" conversion path.

4.2.1 Customer Decision Making Process

Pre-search Period

Before actively looking for a managed and hosted Kafka solution that Aiven and other providers offer, visitors typically receive information about the technology and potential solutions in various ways. Some participants reported reading blog articles by other companies using Kafka as a technology or online articles by solution providers, such as AWS, themselves: *"when learning . . . Kafka . . . Confluent [another provider] actually has their own blogs where people who are developing those tools, . . . so you can learn from those people" (#4)*; *"we spend days reading like blog posts . . . from other devs at other companies, . . . just to see how they're doing all this and Kafka seemed to be central theme" (#5).* Others watch presentations from other Kafka-using companies: *"we spend days . . . watching talks from other companies like Netflix, Uber, Airbnb and all of that" (#5).* This way, they are already aware of brands offering potential solutions before an internal business problem arises that could be solved by these solutions.

Business Problem to Solve

Use Case/Application

The companies with which the interview participants are affiliated widely vary in their business domains (Table 3.2). Similarly, their use cases and areas of application for Kafka vary. For example, explained by one participant from a logistics company, the new Kafka solution shall be used to ingest data from their production databases into their data warehouses. For another company, Kafka shall be used to build an automated data streaming pipeline to collect data from customers in various file formats and save it to their database. For this case, especially Kafka Connect and Kafka REST are of

interest to them. Yet another company, operating an online retail business, uses Kafka as a communication infrastructure for multiple smaller services that together process customer requests coming from the online shop. Consequently, the largest part of their data is digested by Kafka. Furthermore, a company operating in the media industry, uses Kafka for piping, filtering and routing data, collected by their internal tracking system, that is then delivered to customers. Another participant, associated with a company providing personal loans, explains that they are able to provide loans to customers instantly by automatically calculating a loan price. However, in case of miscalculation, due to regulations they need to be able to identify the error. For this, they desire to use Kafka, as it allows them to return to any point of their calculations and diagnose the error. Lastly, one participant from a media technology company describes that Kafka shall be used to build a data architecture for future demands, such as real-time data processing. Nevertheless, already now they intend to use Kafka for a statistics system that shall be used in the entire company.

New to Kafka

Three out of six participants had not used Kafka as a technology before and were looking into their first solution based on the technology. Several reasons they chose to adopt Kafka for their needs were, amongst others, Kafka's abilities to easily connect with other technologies through Kafka Connect, its fast performance, its suitability for automation and thus data consistency and completeness. Some participants' companies even intended to use Kafka as databases, meaning for longer-term data storage. Additionally, seeing other large and successful companies use Kafka provided an extra confidence boost.

Why a Managed and/or Hosted Solution

At least one participant mentioned that with the decision to employ Kafka for their data needs, they also decided to use a cloud-based solution for the first time. One reason for this decision was the large effort required to set up and maintain Kafka on premises, i.e. on their own company's servers. Furthermore, service reliability was a major aspect, as they did not want to be responsible for guaranteeing service all-time-availability. Another participant provided a similar reasoning. After testing a self-hosted solution, he realized that with little internal resources, it would be undesirable to be responsible for server uptimes: *"I don't actually want to host this ourselves because I have a team of one and if I'm on call and I'm going to have to deal with like liability[?], everything that goes wrong. . . . so I started looking into other hosted solutions." (#5).* He further explained that starting with a managed and hosted solution, they did not have to "learn the hard lessons early on"

and were able to *"just start kind of using it". Scarce internal resources were likewise a reason for another participant to opt for a managed solution: "I'm building, Kubernetes, like I don't have time to also build Kafka" (#6)*, which motivated him to look for a managed solution specifically. Furthermore, a lack of competence managing Kafka was another reason: *"Kafka being important but also not part of our core competency set, we wanted to have it hosted" (#6)*; *"such a Kafka cluster is relatively tedious to self-operate and we had no knowledge on the DevOps side to do something like that" (#3).*

Why a New Solution

The companies interviewed either wished to replace their existing solutions, for which some were already using Kafka while others were not, or to start utilizing Kafka for a new project. Several reasons for why customers were looking into Kafka as technology as well as Kafka as a hosted and managed solution, are also applicable when understanding what reasons they had to search for a solution in general. Those and additional reasons are summarized as follows.

Motives that participants, or rather their teams, had to search for a new solution can be found in the problems and difficulties with their previous solutions. One company needed to deal with too much manual labor, which was cost intensive and error-prone. Therefore, they were looking for a more efficient way of working as well as more data consistency and completeness. Poor service performance posed another challenge for another company, commenting on their previous solution: *"it used to take like 15 to 20 minutes for a change in the database to make it into a data warehouse. And now it's like two to three hours" (#5).* Furthermore, they were missing the possibility to store historical records. As a solution, they required a service that was scalable along with their growing needs and would retain data. Additionally, security was an important aspect depending on the business domain and the regulations within it. For one company, increasing data security while keeping costs reasonable was a reason to look for a new solution. Moreover, their previous solution did not allow them to access their data very easily. Therefore, the new solution required to allow for better control over their data through VPC peering. Too high costs of previous solutions was another common reason indicated by two participants: *"At the moment . . . if we build something, it doesn't matter how much it costs, but that should not be the case in the long term" (#1).* Adding to that, an internal lack of knowledge or competence to reliably address server downtime issues posed a challenge. Yet, infrastructure reliability was a major requirement and moreover, they explained that they *"usually try to use as many managed services as possible, why not also for Kafka?" (#1).* Outsourcing the management of

the service, the company can furthermore hold the provider accountable for service-related failures and no longer has to carry the responsibility themselves. Lastly, a lack of internal resources in the team, as described by two participants, led them to search for a managed solution: *"we also are stretched pretty then as far as our time and so [we are] continuing to use kind of more managed solutions" (#6).*

Solution Requirements

In case Kafka is a new technology, the wish for a suitable data architecture solution arises after a business problem has become too concerning. Otherwise, due to the shortcomings of previous solutions, companies develop a wish to find a suitable hosted and managed Kafka solution. As a consequence, companies typically discuss the scope and the requirements for this solution. However, not all companies have a clear understanding of their requirements at this point in the process. Regarding requirements, the interview participants reported a number of different factors that were required for a suitable solution. Naturally, many commonalities exist with the needs reported in section 4.1.

Hosting and Managing-related Requirements

Most participants have a strong preference for which cloud provider to use. Four out of six participants exclitely mentioned which cloud they required. Most often, Amazon Web Services (AWS), Google Cloud Platform (GCP) and Microsoft Azure were mentioned. This also applies to the cloud region. Two out of six participants explicitly expressed that they required hosting their database services in a specific region. That region is usually the one in which they already host other services and/or that is close to their own location, however not limited to. Additionally, the solution was required to be fully managed, as explained by two participants: *"I don't have to manage at all because I want to spend my time on other things." (#5).*

Provider characteristics

Service reliability is one important requirement that a solution provider has to fulfill, according to four out of six participants. Likewise, the provider has to deliver highly secure services, which was explicitly mentioned by two participants. Security means for example accessing that is encrypted through a private VPC peering connection. Furthermore, the importance of great support increases when the provider manages the services, one participant explains: *"since we're using a cloud provider now we don't have a lot of control on the system, right? But control is done by the top provider. So if a*

service is down for some reason, how do I quickly reach out to somebody" (#4). Moreover, responsive support is crucial when a company's procurement process requires many interactions with the solution provider. A third participant explains that easy access to support, e.g. via a chat function, is very reassuring. In addition, the ability to flexibility change service plans was expressed as an important characteristic by one participant. Along with plan flexibility, avoiding vendor lock-in was crucial, as two participants described: *"not locking down is one of the most important thing . . . for me" (#4).* This means for example not having obligations to pay for a full year although the service has become obsolete and being able to leave and stop paying the provider at any time: *"can be canceled at any time, everything is great. For many of the decision makers, this was certainly of great importance" (#3).*

Service characteristics

Concerning service requirements, one of the most central requirements is fulfilling technical service aspects related to performance. As this aspect is so central however, participants naturally expected providers to fulfill this requirement. Furthermore, at this stage not all participants clearly understood their own plan requirements. One participant explained this process as *"a mutual discovery of what are the [customer's] requirements and what can we [customer] deliver, that is also part of the process that I found very important" (#1).* Likewise, one participant emphasized the ease of use regarding the service. Feature-wise, both integration into the existing infrastructure as well as the interaction with the service were central, as two participants explained. Specifically service logs and metrics matter in regard to integration. Additional desired features were an easy-to-use management platform as well as easy user management, one participant specified. He further detailed that user management was necessary to allow different teams within the organization to utilize the provider's services.

Service Discovery

There are two common ways of discovering solution providers. The first already starts during the pre-search phase (see above), in which companies are not actively looking for a solution. As explained above, in this phase they almost accidentally discover solutions as they are learning and staying informed about the technology: *"since you are reading their [solution provider's] blogs more often . . . they just reached out to me one day: Hey, I see you're reading a lot. Do you have a use case or something? Do you want to use Confluent cloud? . . . That's how I learned about Confluent cloud" (#4).* When a problem occurs and the company decides to address it,

then they are already aware of the brands they encountered in the pre-search phase as well as brands they have known from before. The latter are typically large cloud providers, such as AWS or GCP, that offer Kafka solutions themselves: *"Some of them were we knew from before, like Amazon" (#2).* Therefore, companies tend to review solutions of brands which they already know before searching for new solutions. If they are not satisfied with those solutions or they consciously would like to evaluate different alternatives, they would explore new solutions: *"I do like to compare the contrast to see what actually fits the best, . . . and not just blindly go for one thing" (#4).* There are usually two ways in which companies discover new services: 1) They ask their own networks for recommendations, which two participants mentioned: *"First, I'd just ask all of the engineers in the company who I had worked with in the past" (#5)*; *"you know, ask friends . . . . . I actually have a slack channel with a bunch of people that I used to and currently work with" (#6)*, or 2) they actively search via a search engine, typically Google, which four participants mentioned: *"And then I started googling about Kafka cloud providers" (#4)*; *"we were actually just searching around on Google to see if we could find anything else" (#6).* From their network, they either receive a provider name or a link to the providers webpage, usually linking to its homepage. When using a search engine, they click on the listed search results that seem suitable. Clicking a search result, they typically land on the service page itself. Regarding this, it is interesting to note that the person that discovers the service is not necessarily the person that visits the service's webpage and reviews it. Asking participants who discovered the service, received answers were amongst others: *"my colleague and that was basically . . . he briefly googled and wrote down 2, 3 services and forwarded them to slack [communication tool]" (#3)*; *"The engineer that I mentioned searched, and is the one that actually came across you guys and sent you my way" (#6)*; *"our chief product owner . . . he just picked it [the provider] out and forwarded it and said, here they do managed Kafka" (#1).*

Solution Comparison

The results indicate that evaluating and comparing solutions is not a very straightforward step in the overall decision making process. As mentioned in the pre-search and discovery phase, different solutions are possibly discovered at different times. Participants reported that they started to compare services they knew before active search and later on searched for more alternatives. These alternatives were then compared to the solutions that were already previously compared and tested-out amongst each other. Regardless of the timeline however, services were usually compared regarding several dif-

ferent factors. Note that solution comparison here means anything between viewing the solution for the first time and testing the solution.

Provider Comparison

Starting with one of the most relevant comparison aspects, the price, four participants explained their reasoning. Two participants highlighted that compared to other providers, the pricing is easily accessible: *"with you guys it was very straight forward. Like you just lay out the prices, which is awesome. . . . with other companies . . . you'll have to like hop on a sales call." (#5)*; *"I ended up . . . not doing that [inquiring other providers' prices] because they all wanted to have a bunch of phone calls to custom build something to us do the enterprise pricing" (#6).* The participants also clarify that pricing is not always very easily comparable as some providers base their pricing around data throughput whereas others concentrate on cluster size and specifications. Regarding the adequacy of the pricing, participants explained that other providers' prices were often too high for the value delivered: *"their pricing this is a bit higher compared to Aiven . . . when Aiven stood out so far is of course the reasonable price range" (#4)*; *"we already had it at Confluent and we did some load tests and stuff and then we came up with requirements for the clusters, which were then relatively expensive. And with these requirements at Aiven, it was now significantly cheaper" (#3).*

Furthermore, the ability to start utilizing services fast and independently was an important factor of comparison. Two participants reported negative experiences with other providers: *"the kind of engagement with the sales teams at other places was a week or two at least . . . I didn't really want to spend four weeks on sales calls with them" (#6)*; *"you'll have to like hop on a sales call and you know, they put together a bunch of proposals . . . a company our size who wants to move like very quickly, that was like way too much" (#5).* Whereas Aiven's independent way of getting started was much appreciated: *"it was very simple to set up a free trial" (#5).*

Regarding the influence brand awareness has on provider favorability and thus comparison, one participant explains about another provider: *"this [provider's] logo tells a lot, right, because I am familiar with this logo. I'm reading blogs all the time. So when you're familiar with something, you are more leaned towards that approach" (#4)*; *"Confluent seems to be the primary player in the Kafka space . . . selling this to my data engineering team was actually more difficult than selling it to the VP because they knew Confluent" (#6).*

What concerns the relevance of other customers' statements about a provider, one participant mentions that he discarded one potential solution about which he saw others provide poor feedback.

Lastly, company background was mentioned once as an influencing factor when comparing: *"[a company] from Finland . . . I find that comes across as very likeable . . . in this cloud programming bubble . . . in which one mainly encounters American companies . . . I found it very sympathetic that you it's a European company and Finns are trusted" (#3).*

Service Comparison

One of the most central aspects for a service are its features. According to the participants, providers may offer different features, whereas some features are more relevant to their companies than others. Therefore, in the end it might matter most which provider offers those features that are most relevant to the company and its needs.

One participant also highlighted the difference in level of management: *"Confluent's solution you still kind of have to host parts of it yourself, like their REST of API and Kafka Connects, you have to actually still host in your own VC, whereas with you guys . . . , you guys manage all of that" (#5).*

Service maturity was also remarked by two participants. According to them another providers solution does not reach the same maturity as a managed service as Aiven's solution and it appears to receive little attention from the provider: *"talking with Confluent, they seemed like they're not as mature a platform" (#5)*; *"their pay-as-you-go service that they only consider as bait for the real thing . . . you notice the lovelessness and that they don't want people to use it. That was different with Aiven" (#3).*

Lastly, one participant commented on the comparison of service management dashboards. In his opinion, Aiven's web interface was more attractive than another provider's: *"At Confluent you get such a totally moldy, I mean it works, . . . but it's not so much fun" (#3).* He explained that the other provider's web interface allowed to get some service visibility but that he was more convinced by Aiven's interface: *"I thought that with Aiven it looked pretty good, relatively modern I would say" (#3).*

Participants' detailed evaluation of Aiven's Kafka service as illustrated on its service webpage, is described in section 4.2.2.

Service Testing

Although testing of different solutions was on purpose emphasized little in the interviews, the participants made some remarks about that stage. One participant described that, once he received permission to sign up at Aiven, he directly created a service and provided it to the engineering team to use it. Another participant similarly created a service and connected it to their

system after sign-up, which he reported to work well. Sometimes, participants had already tested other providers' services before and were able to directly compare in terms of performance and management through the web interface.

Internal Procurement Process

As identified in the interviews, as services are evaluated, they also pass through an internal procurement evaluation, where other non-technical departments are involved. In general, this evaluation is more typical for larger companies but not exclusively. As participants explain, these departments can be involved at different steps of the process. One participant mentioned that before being allowed to agree to Aiven's terms of service in order to sign up, their legal department had to review the terms: *"I had . . . to get legal approval to accept the terms of service (#6)"*. He clarified that working for a financial company he is not allowed to agree to anything on behalf of the company. Other departments that were involved in his company were the compliance and security department for vendor evaluation. In contrast, two other participants only highlighted the involvement of the finance department before creating and testing services. One participant described that he had created an account before but only after receiving financial approval, he created a service to test. This is similar to what another participant described. According to him, he needed to get approval regarding the estimated costs before testing the service. In his case, the financial decision persisted for such a long time that their demo credits expired. His challenge was gathering all relevant financial decision makers in one place, i.e. matching their schedules. This prolonged their process but since new credits were granted to them by Aiven it did not cause any further problems. One other participant explained that he was able to test the services, however, he had to restrain from using any personal or user data until their security department had reviewed the contracts. Prior to that, their legal department is involved as well.

Final Decision Making

Typically, participants found more than one possible solution. Some solutions were discarded early on already whereas others were discarded later throughout the review process. Alternatively, the participants would have several different solutions to choose from after all evaluations are done. This section describes how participants in collaboration with other company stakeholders reached this decision.

Five out of six participants explicitly mentioned that they expressed their

recommendation for the solution to their bosses, which then either signed off the proposal or attained agreement from other stakeholders, such as legal, security or finance. Overall their processes were all quite similar. One participant explained that after he had researched and evaluated solutions, he asked the engineering group whether they had any objections with the solution he would recommend. Once engineering agreed, he provided the CTO with his recommedation along with the estimated costs and asked him to handle the payment. After his CTO's consent, he created a cost summary for the finance department, which was signed off without any objections. Another participant described a very similar process. Once he received legal approval to sign up for the solution of his preference, he researched it and introduced it to their engineering team, which he had to convince of the solution. Subsequently, he gave his recommendation to their VP of Engineering along with the costs and asked his boss to give his approval. After his boss had a brief look at their solution, he received his consent. A third participant provided his solution recommendation to his manager, the head of his department. His manager then proceeded to seek approval from their finance department for the participants recommendation. A fourth participant equally provided his recommendation to decision makers. He explained that he himself along with other engineers possess a lot of influential power as they have technically tested the solution and done the integration work. At the point he gives his recommendation to management he can say, the only thing left to do is inserting a credit card. In his case, management together with the finance department then made the decision based on engineering's recommendation as well as the solutions conditions, long-term commitment vs. canceling anytime, and the costs of the solution. A fifth participant was in the pre-evaluation phase at the time of the interviewing, so no decision had been made yet, however he described a decision making process similar to the four previous participants: It is his task to gather information into a report concerning the solution he recommends. He then delivers this report to his boss, who discusses the recommendation with him. Finally, his boss makes the final decision. Also in his case, contract conditions and costs are decisive. A sixth participant stretched the influence non-technical departments have on the solutions that engineering and management can choose from. He explained that engineers provide a selection of different alternatives to non-technical departments such as legal or security, who then filter out alternatives that do not satisfy the requirements. In his case, the legal department first reviews the alternatives, followed by the security department. From the remaining solutions engineering and management can then pick one.

4.2.2 Visitor's On-page Journey

Utilizing participants' interview responses, through customer journey mapping, as described in section ... (methods), visitors' typical on-page journey was determined. The journey is described step by step, whereas each step was considered from multiple different viewpoints:

1. What actions do visitors take?
2. What goal do visitors have? How well can they accomplish them?
3. What questions do visitors have in their mind? How well does the page answer them?
4. What thoughts do visitors have in their mind?
5. How do visitors feel mood-wise? (indicated through five different types of smiley faces)
6. What touchpoints (elements) on the page do visitors interact with?

The full journey map is depicted in Figure 4.1 below. A larger digitized version is visible in Appendix C or at the following link: `https://miro.com/app/board/o9J_kwgtgZ8=/`.

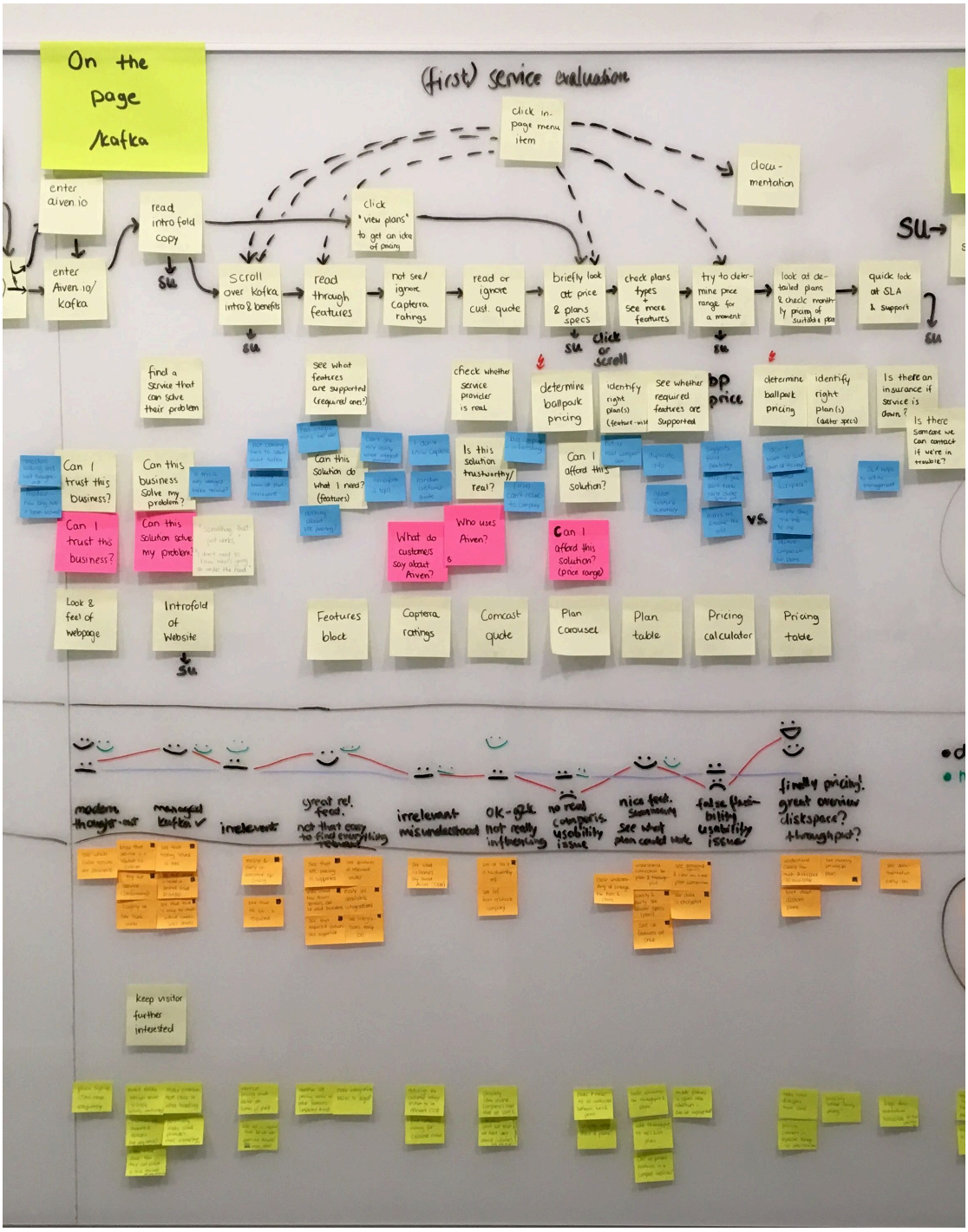


Figure 4.1: Journey map of the visitors' first experience on the page

According to participants' input, when they enter Aiven's website for the first time, they form a first impression about it as a provider based on the look and feel of the site. According to Blanks and Jesson (2017), they ask themselves questions like "Can I trust this business?", "Is this business real?". Most participants mentioned that the website seemed modern looking and well thought-out and therefore appealing: *"it is very clean and it looks very nice" (#6)*; *"the website initially makes a relatively clear and tidy impression . . . it makes an airy impression, relatively modern, and doesn't attack you with any pop-ups" (#3)*; *"the polish of this whole page like inspires a lot of confidence that everything is pretty well thought out" (#5)*. One participant explained that due to its modern look, he was wondering how long Aiven had existed and therefore questioned its reliability as a provider: *"really nice flashy website, I was like, okay, which startup has been around for two days and just got their funding." (#6)*. In the next step, participants reach the intro section (Figure 4.2), at which they typically have a look. Here, their goal is to determine whether the solution at hand could be a possible solution to their problem. Therefore, they ask themselves questions like "Can this business solve my problem", which, in the context of this page, means "Is this a fully managed and hosted Kafka solution?". From here, participants either clicked the "View plans" button in the intro section to see what plan options are available or they scrolled down further.

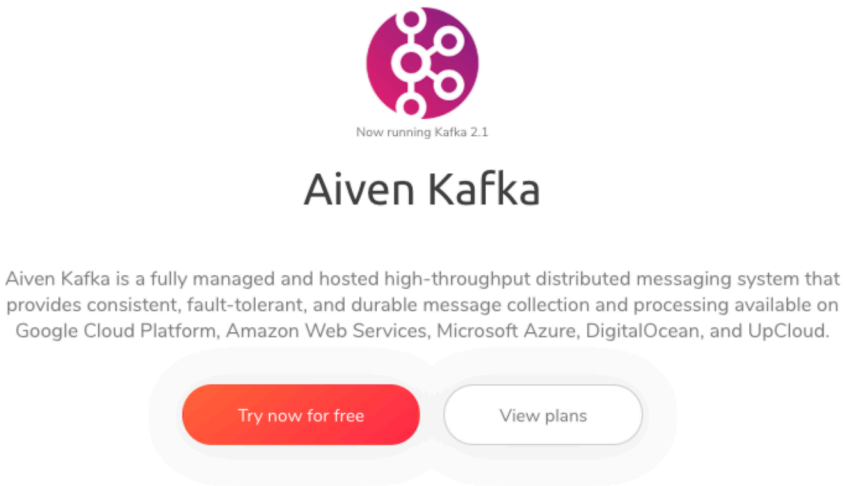


Figure 4.2: Kafka service page - Intro section

Scrolling down, they encounter a section giving a brief introduction to Kafka

followed by a section displaying the benefits of the technology (Figure 4.3 below). Usually, participants reported to scroll past these two sections, as they were not coming to the page to learn about Kafka. Since they already knew this information it seemed irrelevant to them: *"that wasn't very useful because . . . by the time I got here . . . I already knew that we wanted to use this. And it wasn't like I needed to be convinced to use Kafka" (#5).*

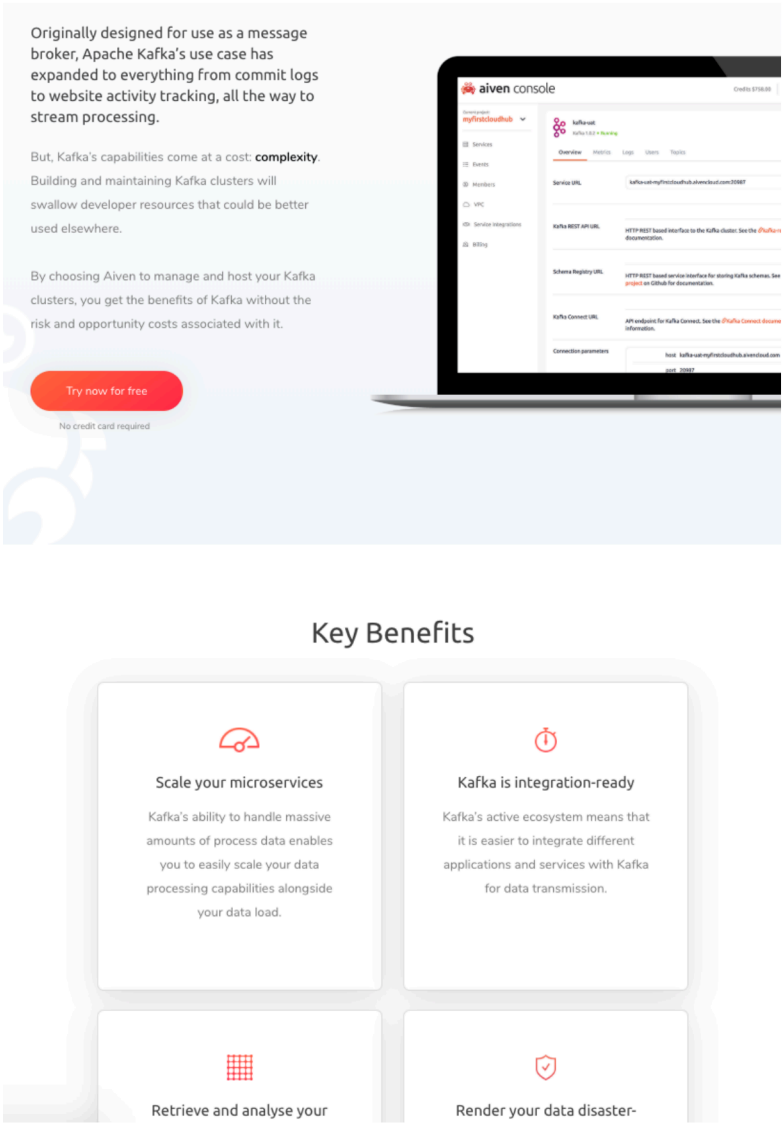


Figure 4.3: Kafka service page - Kafka intro (top) and Kafka benefits (bottom)

Continuing the scrolling, they reach a listing of service features as well as an average customer rating (Fig 4.4 below). This is the first section where participants reported to properly stop. While reviewing the features, they briefly noticed the section on the right about ratings choosing to mostly ignore it. With the service features being one of the most relevant things, their main goal here is to see what features are supported, especially paying attention to the features they require or desire. The question they ask themselves here is "Can this solution do what I need?". Here, participants have mostly been thinking positively that Aiven offers features such as integrations and Terraform. However, they explained it would be somewhat difficult to see easily which integrations are available. Also, they were wondering whether Aiven offered VPC peering, as they would have expected to see it listed amongst the features. Regarding customer ratings, it became evident that this section was very misunderstood by the participants. Seeing the large "Capterra" logo and the stars rating, they interpreted it as Aiven having chosen one of their customers ratings to be displayed on the page. Also the explanation text below the ratings heading was interpreted as a customer quote by one participant, who then explained he found the quote quite superficial: *"the testimonial here is a collection of marketing words . . . if you take a closer look at it, that's terrible" (#3).* None of the participants knew that Capterra was a review platform, where customers can freely write reviews for different software. For this reason they weren't able to interpret this section the way it was designed.

Scrolling down further, they reached a statement by one of Aiven's customers (Figure 4.5). Some participants widely ignored the quote scrolling down further in search of another type of information at this point. Some took note of the customer brand, the title of the person providing the quote or read through the statement itself. If they were interested in this information at this point, then their goal was to see how credible this solution is. They were asking themselves questions like "Is this solution trustworthy or real?". Participants' thoughts were amongst others "this is a big company - interesting they chose Aiven's Kafka service" or "big company but not relatable for a smaller company": *"I guess it was like good in the sense that it made you guys seem legit because you have a large company working with you" (#5)*; *"the selection of who is being presented as the testimonial is top" (#3).*

Next they arrive at the plan carousel section (Figure 4.6), either by having continued to scroll down via the customer quote or having clicked on "view plans" at the top of the page. After the features, plans and pricing is the most relevant information for the participants that they were searching for.

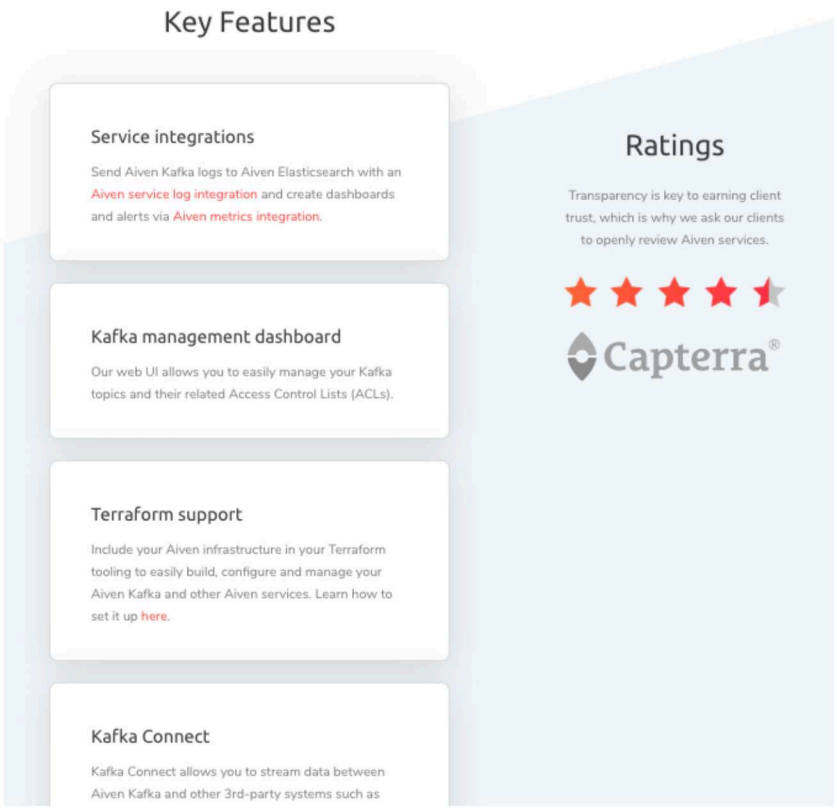


Figure 4.4: Kafka service page - Features and Customer Ratings/Reviews

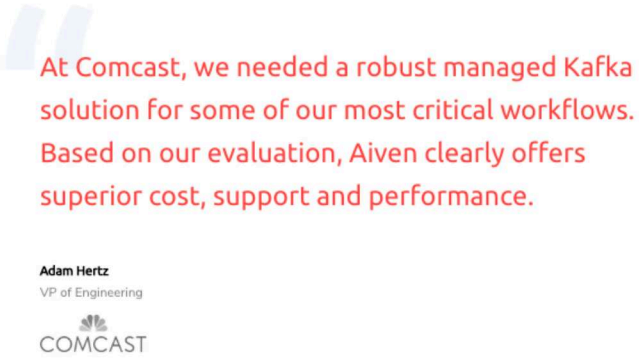


Figure 4.5: Kafka service page - Customer quote

Their main objective here is to determine the ballpark pricing of the solution for their needs. Here they asked themselves "Is this solution in our price range?". Accordingly, the click through the different plan cards a bit quickly realizing that this section does not allow for thorough comparison between different plans. Furthermore, there are a few usability issues with the arrow button around the carousel, which might somewhat frustrate some visitors. Still in search of plans and pricing comparison, they clicked the link "See detailed comparison table" if they noticed it or scrolled further.

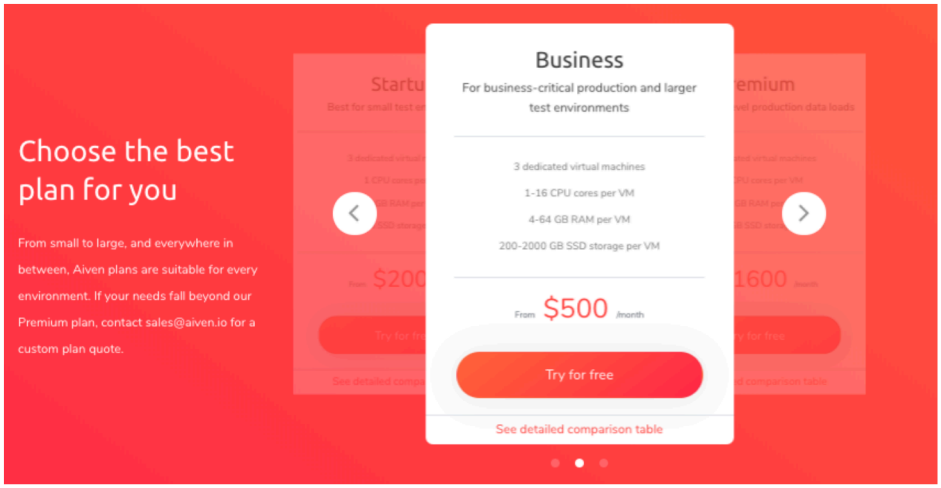


Figure 4.6: Kafka service page - Plans carousel

In either case, they reach a plan or rather tier comparison table (Figure 4.7). The main objective is to identify the right tier, mostly feature-wise and see whether the required features are supported. Here, they look through the cluster specification, concentrating, however, even more on plan features ruling out plans that do not fulfill all their feature requirements. The features in the middle of the table received fairly little attention whereas the features at the end of the list were most relevant. Some content is found to be redundant by some people as it provides duplicate information, e.g. reading that the available clouds are the same for all of the three tiers. Another participant explained that he appreciated this compact feature summary.

Afterwards, the participants arrived at a pricing calculator (Figure 4.8 below). Here, their goal still was to formulate an understanding of the solution's ballpark pricing. Some participants might try to use the calculator. They would first choose the options on the left side after which they would try to

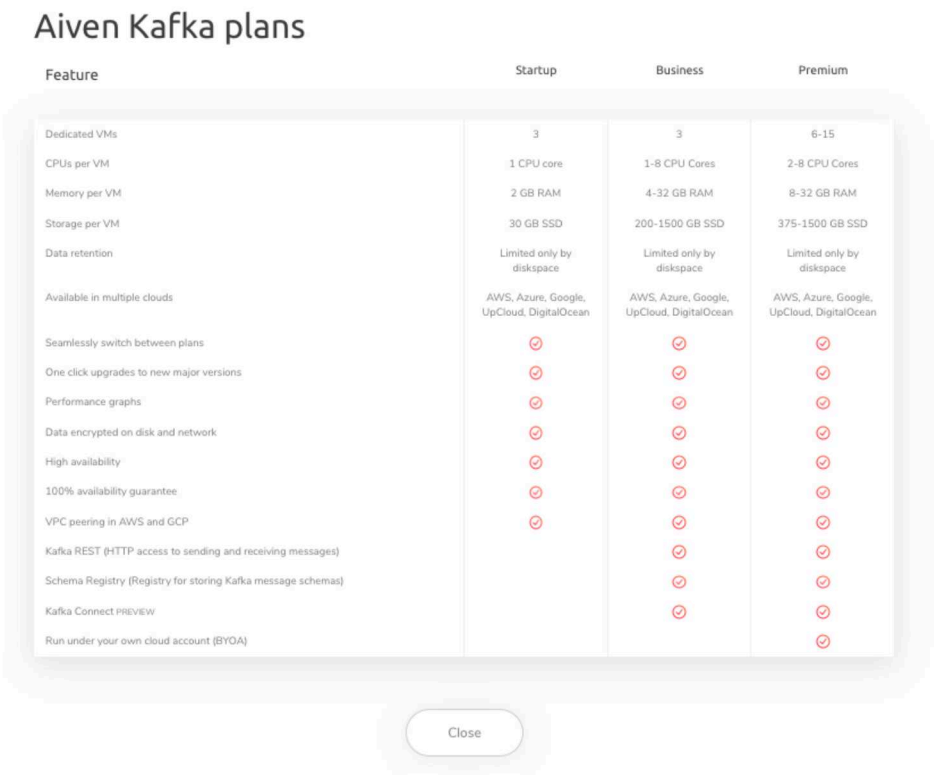


Figure 4.7: Kafka service page - plan comparison table

modify the cluster specifications on the right by clicking on the white rectangles. The intention here is to further modify the cluster specification to suit their capacity needs. Contrary to their expectations, the cluster specifications are not modifiable. For this reason, one participant explained that the calculator indicates false flexibility: *"the calculator suggests more flexibility than there is" (#1).* Instead of allowing modify individual aspects, the calculator only allows sliding up and down through different plans. Another participant also described this as making one discover the pricing information instead of simply showing an overview: [quote]. By yet another participant the calculator was described to be more useful for someone who does not yet have any idea about their required specifications and wants to "play around": *"It seems like it was for people who haven't done much research and we're just kind of randomly guessing." (#5).* After trying to determine the pricing for a while, some participants clicked the "See detailed pricing table"-link once they noticed it or they simply scrolled further down the page.

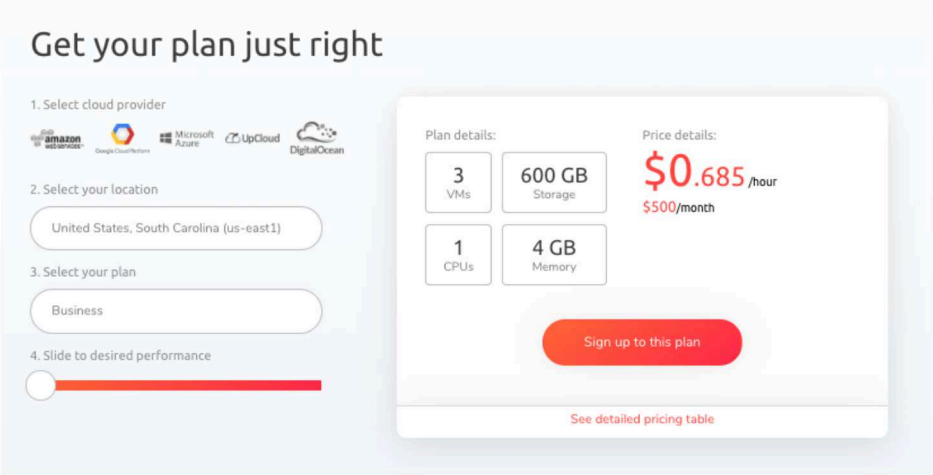


Figure 4.8: Kafka service page - Pricing calculator

This led them to a detailed pricing table (Figure 4.9). At this point most participants were still looking to determine the solutions' estimated price range. In addition, their goal here was to identify the right plan for them cluster specification-wise. Participants reported that they did not want to scroll down this far in order to get to the plans and pricing information [quote]. In addition, some participants had several smaller questions regarding the total disk space for a plan or associated throughput. They found that this section was a clear and useful comparison between plans, and as mentioned above, simply displayed all relevant info to them.

As the last section of the page, some participants continued to the SLA and support information and briefly reviewed it (Figure 4.10). Here, participants' goals were to reassure themselves that they were secured against downtime faults by the provider and that they would receive support if needed. Questions to themselves here were: "Is there an insurance if the service goes down?" or "Is there someone we can contact if we're in trouble?". One participant mentioned that especially the high compensation in the SLA would help convince management of the solution.

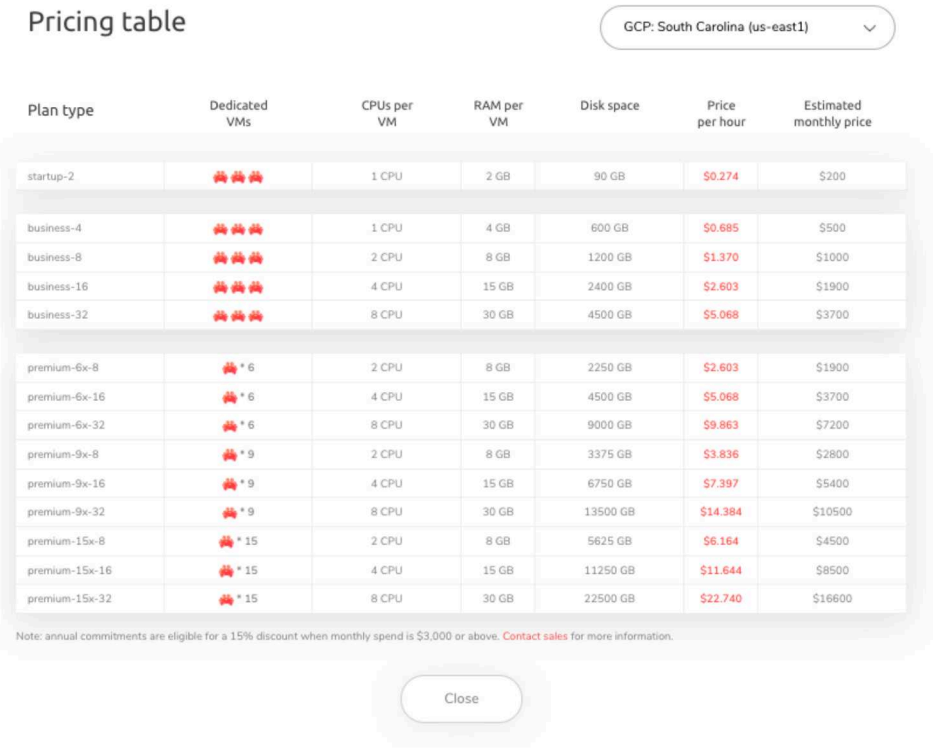


Figure 4.9: Kafka service page - Detailed plans and pricing table

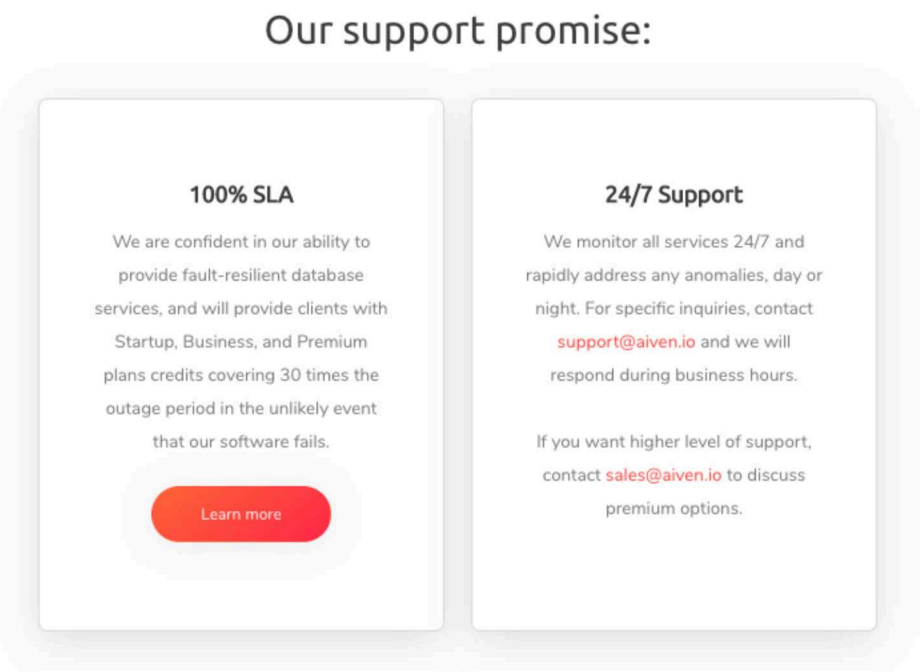


Figure 4.10: Kafka service page - SLA and support

Chapter 5

Discussion

5.1 Reflection on the Results

This section discusses the results of this study in relation to research question 1.3. First, it reflects on the visitor needs that arise on the solution page. It then examines the visitor's path towards conversion.

5.1.1 Needs

The most prominent needs were related to various different categories, such as service features, plans and pricing as well as social proof, service sign up and trialing

In respect to service features, one of the most essential aspects was the integrability of the solution into the customer's existing software, as highlighted by three participants. Therefore, integrations needed to be easily recognizable and accessible on the page. This is in line with the findings of Walther et al. (2012), where integrability, referred to as interoperability, is identified as the eighth most fundamental success factor for a SaaS solution. In addition, service security was of importance to at least three participants, either reflected through data encryption or VPC peering. VPC peering can likewise be connected to data privacy as well as compliance needs. Furthermore, service availability and reliability were essential to at least one participant in the form of multiple Availability Zones (AZ) support. According to participants' feedback, both VPC peering and multiple AZs should therefore be listed amongst the service features. Lastly, being able to easily configure the service through Terraform, a cluster configuration tool, was a desired feature. Similar to integrations, Walther et al. (2012) also consider security, privacy, compliance, availability and individualization/customization fundamental success factors of a SaaS solution. Therefore, it appears logical to

highlight these features on the solution page.

Regarding service plans, the most prominent needs were to assess the technical performance as well as to customize the performance. Thus, five out of six participants wanted to identify suitable plans by comparing Aiven plan specifications with their own performance benchmarks. Participants' strong interest in plan specifications comes as no surprise, as Walther et al. (2012) highlight performance as the most important factor for SaaS success. Additionally, Michelsonas and Abdur (2012) recommend providing technical information when marketing a SaaS solution. The service is characterized by both features and plan specifications, so displaying this information can be compared to displaying clear product information, which was identified as the most essential factor for e-commerce sites Kaushik and Grondowski (2017). Four out of six participants were interested in customizing the plan specifications offered on the service page. Most of them were specifically interested in increasing the amount of available storage relative to other parameters. Furthermore, this finding is in line with those of Walther et al. (2012), which state that individualization is the third most relevant factor regarding SaaS.

One of the topics participants were most concerned with was the pricing, more specifically to determine the ballpark pricing of Aiven's Kafka solution. For four participants this was the first thing they desired to learn more about on the page. Thus, it is understandable that they critiqued a pricing that was too hidden or too far down on the page. This led one participant to never finding the pricing information and two participants to attaining the pricing information from Aiven's management console only after signup. This matches both Walther et al.'s (2012) and Kaushik and Grondowski's (2017) findings regarding the relevance of cost savings and total price both for SaaS and e-commerce products. Considering this, dedicating a separate page to pricing, as this has become a common practice for many other SaaS businesses, should be considered. This way, visitors aiming to evaluate the pricing can do so independently from the service description itself. Secondly, visitors reported challenges determining suitable plans and thus pricing, therefore sometimes overestimating their needs and also falsely increasing price estimations. These observations leave potential to improve the customer self-service by guiding them to choose a suitable plan without extra consultation through Aiven.

Based on participants' feedback, social proof seemed to influence rather little compared to previously mentioned areas. While the literature indicates that customer logos and testimonials can increase trust and credibility (Ash et al., 2012; Conversion Rate Experts, n.d.*a*; Kaushik and Grondowski, 2017), only two participants explicitly mentioned their interest in customer brands

or reviews. This is not to say that Aiven would not require any social proof on the page. On the contrary, according to participants there should be some social proof present. However, while respected brands can positively influence their impression of Aiven, it appears that as a technical audience they still very much rely on their own (technical) judgement of the service first.

Lastly, for the decision to sign up and trial the service various factors were of interest to participants. On one hand, previously mentioned aspects such as gaining an understanding of features, plan performance and pricing range contributed to the decision. On the other hand, the general value proposition of the service, the service setup, the ease of getting started and trialing but also flexibility were factors, either as triggers or blockers. Three participants were eager to try out the solution as quickly as possible. Therefore, once they had identified that the service looks like a potential solution to their problem (value proposition), they paid only little attention to the webpage before sign-up as their main question was already answered. These findings suggest that optimizing the webpage for very high-intent as well as technical visitors might not be very relevant. Rather it is important to help them get started quickly and easily. Four participants explained that they found it extremely simple and fast to start using Aiven's Kafka solution. They highly valued the possibility to get started via self-service whereas other solutions could only be tested after high-effort engagement with sales. Also Walther et al. (2012) and Michelsonas and Abdur (2012) identify ease of implementation and ease of use as factors to highlight in marketing. As this factor is not emphasized very much on the page to date, it should be considered in the future. In addition, offering a free trial that could be started without inserting a credit card both enabled and encouraged participants to try out the solution. And also plan flexibility was a sign-up motivator, as participants appreciated the possibility to adjust their performance needs as they go as opposed to committing long-term. Walther et al. (2012) similarly identified the relevance of resource and cost flexibility.

5.1.2 Conversion Path

The results indicate that the conversion path of visitors already begins before a business problem arises and companies start searching for a SaaS solution actively. In this pre-search stage, interview participants were already aware of a number of potential solution providers, mostly because they had used these providers before or because they discovered them as they were learning about Kafka as a technology. In most cases, however, Aiven is not amongst these providers. As a result, Aiven's solution is considered much later or, in

the worst case, not at all. The latter might happen although the solution the company provides might be more suitable than any other chosen alternative. This matches with Soonsawad's (2013) findings, that identify the awareness or catalyst phase as the first step towards conversion. The observations suggest that a company must make a conscious effort to be present in the minds of their potential customers even before those feel the need to search for a solution. Therefore, if Aiven wants to be recognized as a solution from the start, it should consider increasing its effort in building brand awareness.

Participants typically started actively searching for a solution when a new project was started or management decided to make improvements to an existing project. The most common motives were saving costs (four participants) and lack of internal resources along with the wish to focus on core competencies (two participants). Less seldom mentioned reasons were better service performance, an increased feature set and need for security, leveraging providers' competences as well as improved service availability and accountability. Several of these SaaS value propositions were also identified by Walther et al. (2012), such as cost savings, concentration on core competencies, functionality, availability and data security.

As the decision is made to find a Kafka solution, potentially hosted and managed, the company starts to formulate requirements for it. Results, however, indicate that participants realized the full set of requirements at different stages during their evaluation process. From my observations, this has an impact on how they compare different alternatives with each other and how well they are able to make a decision. With its expertise Aiven could make use of this insight by supporting potential customers even more in helping them identify or clarify their requirements.

As prospective customers start to comprehend their own requirements they identify different options for the solution. From the pre-search phase, they already have a couple of options to consider. If participants were not sure about these options or wanted to evaluate different options, they typically started their active discovery phase. The two main ways they discovered solutions such as Aiven were 1) through search engines and 2) by asking their network for recommendations. In both cases they reached Aiven's Kafka solution webpage, either directly or via the homepage.

The findings suggest that, based on the appearance, most participants thought that the website looked well thought-out and encouraged trust, while one participant explained that its modern look made him wonder how established and reliable the business was. As Ash et al. (2012) and Soonsawad (2013) state, visitors create an initial impression of a business based on its website within seconds and this impression also influences how the solution is perceived. It appears that especially in the business of selling Databases-as-

a-Service, reliability and stability are extremely crucial. Much of this impression is created by the website, so somewhat old-fashioned looking websites like Amazon's might actually favor customer trust. As the first impression and trust are so closely connected, Aiven should consider conducting more research with a larger sample to gain a reliable understanding of visitor's first time perception of the page.

Looking at the Kafka service page, they first notice the page intro. Participants typically paid some attention to it with the goal to evaluate the capability of this solution to solve their problem. If they consider it as a potential solution, they would typically continue to review the service page. Scrolling down, they reach an introduction to Kafka and its benefits, which they widely ignored. The reason is that they have already decided to use the technology and were not coming to the page to read more about it. Displaying this irrelevant information proves counterproductive to conversion. According to Ash et al. (2012) and McFarland (2013), visitors build up an expectation to find relevant information on the page. Displaying irrelevant information distantiates them further from their actual goal of reviewing the service (Ash et al., 2012). This indicates that, in the worst case, visitors might leave irritated by the information, thus reducing the overall conversion rate.

If visitors stay and further review the page, they reach an overview of service features. As observed when discussing visitor needs, service features were one of the most central aspects to visitors, which motivated participants to pause and review them. Some of the features that visitors desired and that Aiven offered indeed were unmentioned or difficult to recognize in the section. Yet, the most popular features were listed. Thereby, participants' confidence in the service increased. Similarly as a technical visitor is interested in features, a more managerial visitor would instead be interested in the benefits of these features. Aiven could therefore try targeting the latter group focusing more on service benefits.

Next, visitors reach a customer quote by one of Aiven's customers. Based on participants' feedback, the quote was useful to increase trust in Aiven as a provider. It was, however, not influencing participants very heavily at this point. Along with other feedback, customer brands and testimonials could be moved somewhere further back in the page while taking up less space in order not to be in the way of more relevant information.

Next, visitors would arrive at a plan overview carousel, with the goal to gain an understanding of service performance and pricing. As the carousel contained only little details and was a poor comparison it did not help the visitor reach their goal. Therefore, I would recommend removing it from the page. This similarly applied to a pricing calculator, which is located slightly

further down the page. In between these two elements visitors would find a plans and feature table, which was useful to most participants. Nonetheless, the information which it contains is already mostly included within the features overview and pricing table on the page. Therefore, it could likely be replaced by those two. As almost the last element on the page, visitors reach the pricing table. By this time the participants had been wanting to assess plan performance and price range for a long time. As many of the preceding elements were only poorly helping them in doing so, they were very happy when they finally reached a detailed price comparison. At the same time they had wished to access it earlier or more easily.

In general, the results revealed some usability flaws connected to the plans carousel and the pricing calculator. This is somewhat concerning as usability and user experience (UX) appears to largely affect the conversion rate (Gehrke and Turban, 1999; McFarland, 2013; Soonsawad, 2013). Although these identified usability issues are rather small, along with other irritating factors on the page, this be a reason for visitors to leave the page, thus reducing conversion. As this study did not focus much on investigating usability and UX, Aiven might want to conduct separate usability tests of the current or a new page to make sure that no conversion is lost due to usability issues. Furthermore, several types of content were found multiple times on the page: 1) plan information in the plan carousel and plans table; 2) pricing information in the pricing calculator, pricing table and plan carousel. As Ash et al. (2012) and McFarland (2013) explain, visitors want to quickly access the information of interest for them. By duplicating a lot of information, the length of the page grows and it becomes more complex. In this case, it has proven to make it harder for the visitor to access relevant content. Thus, it might be worth implementing a page version that keeps all essential content about the service brief. This version can then be tested against the current version, which is very long, in order to see how the page length affects visitor conversion.

If all questions the visitors had about the solution were answered and they are convinced to further try out the solution, visitors typically sign up. In this case, they then test and compare possible solutions offered by Aiven as well as other providers. This, however, is not a straightforward process. Different solutions are found and potentially tested at different times. This is also connected to how and when different options are discovered. For the review and evaluation process of the different solutions, various internal departments are involved. Most commonly those are legal, security, compliance and finance departments, that are involved into different decisions and evaluations regarding each service alternative. Due to shortcomings regarding price, contracts, security or compliance, some options might already be dis-

missed. Based on the list of approved solutions, the technical stakeholder, who assessed the service via the webpage and tested it out, typically gives his recommendation to his manager. Often, the recommendation of the technical reviewer can influence the manager's decision heavily, as long as the price for and conditions of the provider are acceptable. This indicates that although the participants did not possess the sole decision making power, their recommendation was still selected in all cases. Thus, it seems that Aiven's choice to direct their marketing optimization efforts towards technical visitors was the right decision. The company could reflect whether they would like to target both technical and managerial visitor groups separately to see how it affects the overall revenue of the company. A great number of findings from this study are also useful when optimizing a page for the managerial group.

5.2 Reflection on the Method

As the conversion case study for Moz (Conversion Rate Experts, n.d.*b*) demonstrated, conversion rate optimization projects already seem to make use of user-centered design (UCD) methods rather naturally. Similar to UCD practices, this case study first researched its target audience and then created potential solutions which were then tested and learned from. In the study, potential solutions were improved iteratively until they showed a good conversion result. Examples like these emphasize the suitability of UCD practices for CRO projects. This was the reason for choosing to embed the conversion research into the first two activities of the UCD process while also making use of user-centered methods.

In the first activity, understanding and specifying the context of use, this study first focused on identifying the key visitor groups of the page to be optimized. These were determined in a discussion with Aiven marketing, sales and engineering stakeholders based on their existing knowledge about prospects. Alternatively, these visitor groups could also be created or refined further using insights from analytics, as in Kaushik and Grondowski (2017).

In the context of this study, the second activity, specifying user requirements, was concerned with identifying visitor needs and their conversion path. The methods chosen for the visitor research were semi-structured interviewing and an adaption of retrospective testing of the current page. These methods were chosen to encourage in-depth discussion with the participants. They allowed the exploration of visitors' needs and their conversion path both in the absence (to avoid page bias) and presence (to provide context) of the current page design. As little knowledge about the target visitors and their context was present at the beginning of this study, these methods were

invaluable for delivering in-depth user insights to thoroughly answer research question 1.3. regarding needs and conversion path.

Before the actual research could be conducted, one visitor group was chosen as the focus for the interviews. This was necessary, as with qualitative methods only a small number of participants could be interviewed. Furthermore, in order to reach conclusions on participants' statements, a focus was essential. The interview participants consisted of members of the Senior Developer group, who were either prospects or recent customers. Next, suitable interview candidates were identified and recruited for interviews; an interview guide including interview questions was created, and the interviews were conducted with six participants. Afterwards, the interviews were transcribed for in-depth analysis. The transcripts were then analyzed according to Taylor-Powell and Renner's (2003) qualitative data analysis process based on coding, which refers to tagging text snippets or words with so-called codes. Lastly, the interview insights were used to create a journey map of visitors' on-page journey.

While most case studies reviewed in section 2.4 provide only brief explanations for their chosen methods, comparisons can nevertheless be made. Along with qualitative methods, several case studies also chose to utilize quantitative methods, for example, consulting analytics to study visitor behavior and identify conversion improvement opportunities. As several cases demonstrate Blanks and Jesson (2017); Conversion Rate Experts (n.d.*a*); Kaushik and Grondowski (2017), quantitative methods are excellent at systematically identifying how well different areas of the conversion funnel perform and which areas have the largest potential to increase revenue. Quantitative methods are also valuable for creating hypotheses about aspects to improve based on visitor behavior. These hypotheses can then be proven or disproven, for example, by creating on-page questionnaires or usability tests.

However, as Arendt and Wagner (2010) realized, qualitative data, gathered through analytics for instance, can be ambiguous which might lead to different interpretations. The reason for this seems to be that qualitative data only demonstrates what is happening. However, it cannot confirm why something is happening. Thus, by analyzing visitor behavior, we can only create assumptions as to why a behavior is occurring. In order to then understand the cause, we need to explicitly research visitors with more in-depth data gathering techniques, such as interviewing or user testing. This is in line with Tomlin's (2018) claim that "bringing both quantitative and qualitative data together a much more comprehensive picture of 'what's happening' and 'why it's happening' can be formed" (Tomlin, 2018, p. xix).

Two case studies (Ash et al., 2012; Kaushik and Grondowski, 2017) chose to mainly utilize design and conversion principles as their optimization

method. While using these common principles can be useful to accelerate the process of identifying problems and making improvements, I would not advise to solely rely on these principles. In case, the practitioner has a great deal of experience in the domain and context of the business or product or he already possesses a large amount of knowledge about the target visitors, these principles might be a great way to easily optimize the website even further. However, if these conditions are not fulfilled, blindly applying common principles might also be inadequate as those principles might be invalid in the specific context. Thus, before taking a webpage version into use that was "improved" by applying common principles, its performance should be tested through A/B testing for example.

In conclusion, I believe that the methods chosen were adequate for reaching the goals of this thesis. As desired, they delivered a multitude of in-depth visitor insights, which were previously not known. However, in case the practitioner is already well familiar with the visitors and their context, e.g. the company's decision making process and the domain of databases, conducting such thorough research might not be necessary. In this case, design and conversion principles can accelerate the optimization process as explained above.

5.3 Limitations

5.3.1 Applicability

This thesis was conducted in the context of a SaaS company providing databases (DBaaS). More specifically, the case company Aiven operates in the B2B SaaS sector. The domain in which Aiven operates is highly technical. Consequently, in the beginning of this study, I assumed that its findings would mostly only be transferable to other SaaS or standard software providers in the same domain. In the discussion of the results however, it became clear that many needs and wants that visitors expressed in regard to Aiven's solution are very typical for SaaS (Walther et al., 2012). Such factors and value propositions were, for instance, performance, security, individualisation and availability or cost savings and flexibility, focus on core competencies and functionality. Therefore, there is a high likelihood that many of the findings are also applicable to any other B2B SaaS business.

Although Walther et al. (2012) specify that their findings apply to SaaS in general, they appear to be more valid for B2B SaaS than to B2C SaaS. From my point of view this equally applies to Aiven. While certain aspects such as cost flexibility, performance, security or availability may be similarly

relevant to SaaS consumers, many others such as compliance or concentration on core competencies may not. In addition, the decision making process of a SaaS consumer seems to be widely different. One reason is that, most often, the consumer and the decision maker are the same person. Furthermore, in contrast to business buyers, consumers are not bound by the rules and requirements of their company. They can choose to try and subscribe to a solution on their own will. Generally, their entire decision making process tends to be more emotional than rational. Business buyers, in contrast, typically have to justify their decision. Although there might also be overlaps between SaaS business buyers and consumers, this study does not indicate the applicability of its results to B2C SaaS.

Literature mostly discusses conversion rate optimization in the context of e-commerce. Comparing the findings of this study to the aspects essential to an e-commerce website, it was surprising that they shared many factors. Based on Kaushik and Grondowski (2017), both clear product information and the total price are most fundamental to visitors on e-commerce sites. Both service information regarding plan performance and features was highly requested by the interview participants of this thesis. Support, provider compliance as well as customer testimonials were also mentioned, but similarly customer service contact, secure e-commerce certificate and customer reviews were somewhat less relevant. This indicates that optimizing for SaaS might in many ways be similar to optimizing for e-commerce. While similar categories seem to matter in SaaS and e-commerce, the exact information visitors require regarding each of these business models is likely to vary greatly.

5.3.2 Reliability and Constraints

There are several different factors that might have affected the reliability of the results. The thesis collected participants' feedback about the solution webpage several weeks to months after they had last used it in context. As a result, participants' memory about their interaction with the page is likely to have decayed considerably. During the interviews, some participants reported they did not remember certain things properly anymore. For example their exact goals on the page or what on the page did not work as intended were more challenging to remember. Nevertheless, participants were still able to recall most crucial information. While it is clear that it would have been more desirable to interview website visitors right as they are on the page, it would have been extremely challenging to recruit them.

As one of the interview goals was to observe the participant's interaction behavior with the page, it was desired to video record the interview sessions. At the beginning of one interview, I learned that it was not possible to

record the screen of one participant. For this reason, it was more difficult to interpret his use of the website. Furthermore, the interpretations might be less correct.

The method of this thesis was of qualitative nature. Therefore, it is possible that the thesis' author altered the meaning of the results when performing the data analysis and journey mapping. While this should be kept in mind, this is generally difficult to avoid when analyzing qualitative work. Another factor that likely influenced the interpretation of the interview data, was the author's knowledge about the domain. As mentioned before, the business domain of the researched solution is highly technical and a lot of knowledge both about the solution and its domain is necessary to interpret participants' answers correctly. Gladly, Aiven stakeholders could help interpret some of the data that was unclear to the author herself.

One aspect that this thesis studied very little is the usability and user experience (UX) on the page. The research participants had already visited and used the page prior to the interviews. Thus, no observations about their first-time interaction could be observed, that often reveal a lot of usability and UX insights. As a result, usability and UX issues were only uncovered by chance. Understanding this topic better could have been useful as both usability and UX were said to influence conversion rates quite strongly (McFarland, 2013; Rouke, 2011). Similarly, insights about other conversion-rate relevant areas might be identified more easily with other methods. The applied method did not deliver any insight about adequate copy or a clear CTA, for example, which were mentioned amongst important conversion aspects in section 2.3.

5.4 Suggestions to Marketing

As a continuation of this thesis' efforts, Aiven can utilize the findings to create an improved service page design. This can be done by following the two remaining steps in the UCD process, namely "producing design solutions" and "evaluating the design". Typical ways to create new solutions are to ideate and create solution wireframes. These can then be used to build paper or functional prototypes. As observed numerous times in the case studies in section 2.4, new page designs are typically tested through A/B testing. For this, the visitor traffic is split between the current page design and the new page design to equal amounts. If the tests reach statistical significance, then we can draw conclusions about the better performing version. This may give some indications regarding the relevance of the findings in this study.

If Aiven is interested in gathering more customer insights related to the

thesis' results, the company might want to interview more suspects or previous customers as Conversion Rate Experts did in their study for Moz (Conversion Rate Experts, n.d.*b*). This is likely to uncover more and different complementing insights, especially about first time page impression and usage for suspects and clear motives for abandoning the service. These could help Aiven make its offering more solid.

The optimization project, for which this thesis aimed to lay out the first steps, was the first project of its kind within Aiven's marketing. CRO, however, is not a one-time project but rather a continuous effort in a business. In the scope of this thesis it was not possible to include all approaches that I would have considered useful to maximize conversion. Looking at Conversion Rate Experts case study for Voices (Conversion Rate Experts, n.d.*a*), their 400% conversion rate increase was the result of 11 experiments at five different spots in the conversion funnel in total. This thesis laid the groundwork for merely one experiment at one point of the funnel. Therefore, no conversion wonders can be expected from running only one experiment. In order to leverage the full potential of conversion rate optimization, I therefore recommend Aiven to create a continuous program. As part of this program, multiple smaller experiments should be run on a regular basis based on educated hypotheses. Such a continuous program can then focus on optimizing conversion through the marketing and sales funnels of the company.

5.5 Future Work

Since to date, little research has been conducted regarding conversion rate optimization in SaaS contexts, additional studies should be conducted to investigate what kind of results could be obtained in another type of SaaS business. B2C SaaS appears to be even less studied in the conversion optimization context. In section 5.3.1, the author argued that many findings of this thesis are likely not applicable to B2C SaaS prospects. This topic, however, should be studied further to be able to make comparisons.

Furthermore, this study could in a similar manner be conducted paying more attention to persuasive design principles. Persuasive design was highlighted a couple of times in the literature review. Since conversion is concerned with convincing visitors to take action, investigating the persuasiveness of the page could reveal very useful insights about how to improve persuasion and thus conversion. The method employed in this thesis delivered promising results for the goal of the thesis. Yet, as discussed in section 5.2, the combination of both qualitative and quantitative methods hold large potential for conversion optimization projects. Therefore, the methodology

of this thesis could be further refined by investigating where quantitative insights could enhance or complement the findings.

Chapter 6

Conclusion

The goal of this thesis was to investigate how user-centered methods can help understand the needs and conversion path of website visitors with the higher goal to increase conversion on a SaaS solution page. User-centered methods were considered useful as conversion rate optimization projects require deep visitor insights to increase conversion rates meaningfully (Blanks and Jesson, 2017). As UCD focuses on involving the target users into the process in order to create suitable solutions (SFS Finnish Standards Association, 2019), the CRO research in this thesis was combined with the UCD process and its methods. First, common visitor groups on the page were identified out of which one group was chosen as a focus for this thesis (section 3.1 and 3.2.1). Next, a selection of previous webpage visitors representing the chosen group was interviewed about their needs and process regarding the selection of a suitable SaaS solution to their business problem (section 3.2). Interviewing was chosen as it allows to explore participants' needs and thinking thoroughly. The qualitative data gathered through the interviews was analyzed and then utilized to create a visitor's typical conversion journey (section 3.3).

It was found that the needs that visitors commonly have mostly revolve around service-related information, i.e. service plan performance, including customizability, and features, and the to-be-expected price range. Somewhat less important are factors such as availability, compliance and social proof through other customers. Aspects such as ease of getting started and trialing as well as flexibility and quality support were furthermore found to positively influence the decision to sign up.

Regarding the overall decision making process of companies looking for a SaaS solution, it was found that their process is often very unstructured when searching, discovering and comparing solutions. Often the alternatives that companies are aware of before even facing a particular challenge and thus the need to act, are the alternatives that are considered first when a

problem arises. Thus, in order to be considered as a solution provider early on, businesses should focus on creating awareness in the minds of their potential buyers even before those encounter a need or problem. Another crucial aspect to pay attention to is visitors' first time impression of a business's website. It can highly influence the trust visitors have to the business and how they evaluate its offering. Lastly, interviewees decision making processes revealed that technical visitors strongly influence the selection of a final solution. However, this selection is mostly a collaborative effort between the technical stakeholder, a managerial stakeholder and company's internal security, compliance, legal or finance departments.

Concerning the conversion journey on the webpage itself, it is crucial to deliver relevant content to visitors in the order that matches their thinking process. Therefore, actions to increase conversion on the page include removing irrelevant content, which can irritate and cause visitors to leave, emphasizing relevant content and presenting content in an order logical to the visitor's own thinking.

It was observed that the factors that make Aiven's SaaS solution attractive widely match with the success factors of SaaS solutions in general (Walther et al., 2012). For this reason, one contribution of this thesis are the types of needs identified and visitors conversion path which are likely applicable to many other B2B SaaS businesses as well. Likewise, this means that the method developed in this thesis can be used by other B2B SaaS businesses seeking to gain a deep understanding of their website visitors for landing page optimization projects. The methodology employed in this thesis is particularly useful if there is little knowledge about the visitors of the page existent. For a SaaS business in this situation, I would recommend applying the method developed while complementing some of the shortcomings of the qualitative methods with quantitative methods. For example, if there is a way to observe interviewees' behavior along with a retrospective interview, it would increase the reliability of the results. Another example would be to survey visitors, e.g. about what factors keep them from converting or what they are hoping to accomplish on the page. These insights can be combined with the qualitative insights to draw more reliable conclusions.

References

Abras, C., Maloney-Krichmar, D. and Preece, J. (2004), 'User-centered design'.

Apple Inc. (1991), 'Record your screen in quicktime player on mac'.
URL: `https://support.apple.com/guide/quicktime-player/record-your-screen-qtp97b08e666/mac`

Arendt, J. and Wagner, C. (2010), 'Beyond description: Converting web site usage statistics into concrete site improvement ideas'.

Ash, T., Ginty, M. and Page, R. (2012), *Landing Page Optimization: The Definitive Guide to Testing and Tuning for Conversions*, 2nd edition edn, Sybex.

Ayres, L. (2012), 'Semi-structured interview, in: The sage encyclopedia of qualitative research methods'.

Blanks, K. and Jesson, B. (2017), 'Making websites win: Apply the customer-centric methodology that has doubled the sales of many leading websites'.

Brinck, T., Gergle, D. and Wood, S. D. (2001), *Designing Web Sites that Work: Usability for the Web*, Morgan Kaufmann.

Brooks, J. (2009), 'Taking measure of saas reliability'.
URL: `https://www.eweek.com/enterprise-apps/how-to-measure-saas-reliability`

Conversion Rate Experts (n.d.*a*), 'How we increased the conversion rate of voices.com by over 400
URL: `https://conversion-rate-experts.com/voices-case-study/`

Conversion Rate Experts (n.d.*b*), 'How we made $1 million for moz (formerly seomoz)-using landing page optimization and email marketing'.
URL: `https://conversion-rate-experts.com/moz-case-study/`

Cutler, M. and Sterne, J. (2000), 'E-metrics: Business metrics for the new economy'.
URL: `http://www.targeting.com/wp-content/uploads/2010/12/emetrics-business-metrics-new-economy.pdf`

Dowling, M. (2012), 'Atlas.ti (software), in: The sage encyclopedia of qualitative research methods'.

Gehrke, D. and Turban, E. (1999), Determinants of successful website design: relative importance and recommendations for effectiveness, Vol. Track5, IEEE, p. 8 pp.

Ghandour, A., Benwell, G. L., Deans, K. R. and Pillai, P. (2008), Measuring ecommerce website success, ACIS.

Google (2017), 'Hangouts meet'.
URL: `https://gsuite.google.com/products/meet`

Kalbach, J. (2018), *Customer journey maps*, O'Reilly Media, Inc.

Kaushik, U. and Grondowski, A. (2017), 'Conversion rate optimization of e-commerce using web analytics and human-computer interaction principles : An in-depth quantitative approach to optimization of conversion rates'.

Lucian, R. (2014), 'Digital overload: The effects of the large amounts of information when purchasing online', *Journal of Internet Banking and Commerce* **19**(2), 1.

Ludwig, S., de Ruyter, K., Friedman, M., Brüggen, E. C., Wetzels, M. and Pfann, G. (2013), 'More than words: The influence of affective content and linguistic style matches in online reviews on conversion rates', *Journal of Marketing* .

Ma, D. (2007), 'The business model of "software-as-a-service"', *IEEE International Conference on Services Computing SCC 2007* .

McFarland, C. (2013), *Experiment! : Website conversion rate optimization with A/B and multivariate testing*, New Riders, Berkeley, CA.

Meghani, R. (2018), 'B2b e-commerce trends 2019 - infographic with statistics (updated)'.
URL: `https://magnetoitsolutions.com/infographic/b2b-ecommerce-trends-2018`

Michelsonas, N. and Abdur, R. M. (2012), Assessment of factors influencing marketing strategies of Software as a Service or SaaS, PhD thesis.

Mäkilä, T., Järvi, A., Rönkkö, M. and Nissilä, J. (2010), How to define software-as-a-service - an empirical study of finnish saas providers, Vol. 51 of *Lecture Notes in Business Information Processing*, Springer Berlin Heidelberg, Berlin, Heidelberg, pp. 115–124.

Nielsen, J. (1993), *Usability Engineering*, Morgan Kaufmann.

Nisar, T. M. and Prabhakar, G. (2017), 'What factors determine e-satisfaction and consumer spending in e-commerce retailing?', *Journal of Retailing and Consumer Services* **39**, 135–144.

Rosen, D. E. and Purinton, E. (2004), 'Website design: Viewing the web as a cognitive landscape', *Journal of Business Research* **57**(7), 787–794.

Rouke, P. (2011), 'Booking.com: improving conversion with best practice persuasive design'.
URL: `https://econsultancy.com/booking-com-improving-conversion-with-best-practice-persuasive-design/`

Sarvas, R., Nevanlinna, H. and Pesonen, J. (2017), 'Lean service creation: The handbook v1.8'.
URL: `https://leanservicecreation.com/material/LSC%20Handbook%201.82.pdf`

SFS Finnish Standards Association (2019), 'Ergonomics of human-system interaction: part 210 : human-centred design for interactive systems (iso 9241-210:2019)'.

Soonsawad, P. (2013), 'Developing a new model for conversion rate optimization: A case study', *International Journal of Business and Management* **8**(10).

Statista (2019*a*), 'ecommerce'.
URL: `https://www.statista.com/outlook/243/100/ecommerce/worldwide`

Statista (2019*b*), 'In-depth: B2b e-commerce 2019'.
URL: `https://www.statista.com/study/44442/statista-report-b2b-e-commerce/`

Taylor-Powell, E. and Renner, M. (2003), 'Analyzing qualitative data'.

Temi (2017), 'Temi - speech to text transcription in 5 minutes advanced speech recognition software'.
URL: `https://www.temi.com/`

Tervala, E. (2017), 'Why and how to create a customer journey map - download free template'.
URL: `https://www.columbiaroad.com/blog/why-and-how-to-create-a-customer-journey-map-download-free-template`

Tomlin, W. (2018), *UX Optimization: Combining Behavioral UX and Usability Testing Data to Optimize Websites*, 1st edition edn, Apress.

Verma, N. and Singh, J. (2015), Improved web mining for e-commerce website restructuring, IEEE, pp. 155–160.

Waisberg, D. and Kaushik, A. (2009), 'Web analytics 2.0: Empowering customer centricity'.

Walther, S., Plank, A. and Eymann, T. (2012), Success factors and value propositions of software as a service providers - a literature review and classification, *in* 'AMCIS 2012 Proceedings', New York u.a.

Wengraf, T. (2001), *Interview 'Facts' as Evidence to Support Inferences to Eventual Theorization/ Representation Models*, Qualitative Research Interviewing, SAGE Publications, Ltd, London, p. 2.

Wu, L., Hu, D., Hong, L. and Liu, H. (2018), Turning clicks into purchases, SIGIR '18, ACM, pp. 365–374.

Appendix A

Recruiting Email

Email content to recruit candidates without an active relationship to sales

> Hi <first name>,
>
> I noticed that you signed up to try out our Kafka service some time ago. Did you also come across our Kafka info page on our website?
>
> If so, I would love to hear your thoughts about it as we are about to make some improvements on the site for our customers.
>
> I'll be conducting interviews over the next two weeks, my goal: find out how well did our page perform for you while evaluating our services and if there's maybe a way we could improve it?
>
> Our customers' input is very important to us and we would like to give you the chance to directly impact our future changes. As a thank you we'd also like to give you one of our Aiven t-shirts.
>
> So if you're interested, go ahead and click the link below and choose a suitable time slot, type your name and I will get back to you as soon as possible.
>
> Click here to choose your time
>
> Best Regards,

Appendix B

Interview Guide

Introduction Hello <first name>, nice to meet you in person and thank you for finding time for this conversation today! We're constantly trying to improve our services and getting your feedback is a really important part of that.

So the purpose of today's interview is to learn how you at <company name> have chosen/are choosing a suitable kafka solution and how well the Aiven Kafka info page has been able to serve you during the evaluation. Your input today will help us a lot to make improvements on the site for our visitors. I'll start this session by asking some background questions. Then we'll move over to our Kafka info page to have a look together how well it has served you and what could be done better.

Before we start, I'd like to inform you once more that this session is being recorded. Is that ok with you? If you'd like to have a break during the interview, please let me know anytime and we can pause this. Do you have any questions before we start?

Main questions To get started, can you briefly tell me ..

- What does your team do (how big is it) and what's your role within it?
- How many people within your team were/are involved in the evaluation process?
- How much experience do you have with Kafka?
- What was/is the business problem you want to solve and how did it arise?

- Were/Are there any specific requirements that the solution must have? If so which?
- How did you find different solutions?
- What did you compare them by?
- Did you have a systematic process or did you just google or got referred etc.?

When did you last visit the webpage? Why: get an idea of how well they might be able to remember

Repetition: goal to get an understanding of how well the page supported your decision process, repeat what we've talked about before

To jog your memory, go ahead and pull up the page [interviewée opens page]

- What was your first impression of the page or of Aiven if you formed any?
- Was there anything you were looking for right away? If so, what information was that?
  - Follow-ups (both): What was your understanding of what this service offers?
- What information were you looking for and how well were you able to find it?
- What sections did you actually view? What provided the most value?
- What page content provided you the least value?
- Did the feature block give you relevant information?
- Was the feature table giving you the information you were looking for or was anything left unanswered?
- Did you notice the option to try out the service? How do you think it works
- Why did you ultimately sign up?
- What was the deciding factor?
  - Follow-up: What role did trust play? What created/damaged trust?

Follow-ups (customers only):

- How important was pricing in your decision to trial?
- What did you use to evaluate our pricing? How useful was it?
- How easy was it to determine the right plan?
- How easy was it to determine the final pricing? What way of presenting pricing is most intuitive?

If time left:

- What did you like the most about using this page? What did you like the least?
- What could we do to make this page better?
- How would you compare this Kafka info page to similar pages you've used?
- Were there any other Aiven resources you used to evaluate us? If so, which?
- What made you finally choose/abandon the solution and who made the final decision? Or What will factor in when deciding which Kafka solution to go with?
- Is there anything else I should have asked or anyone else I should talk to?

Debriefing Thank you again for taking the time today, this has been super useful. I'll be in touch with you via email.

Appendix C

Visitor On-Page Journey Map

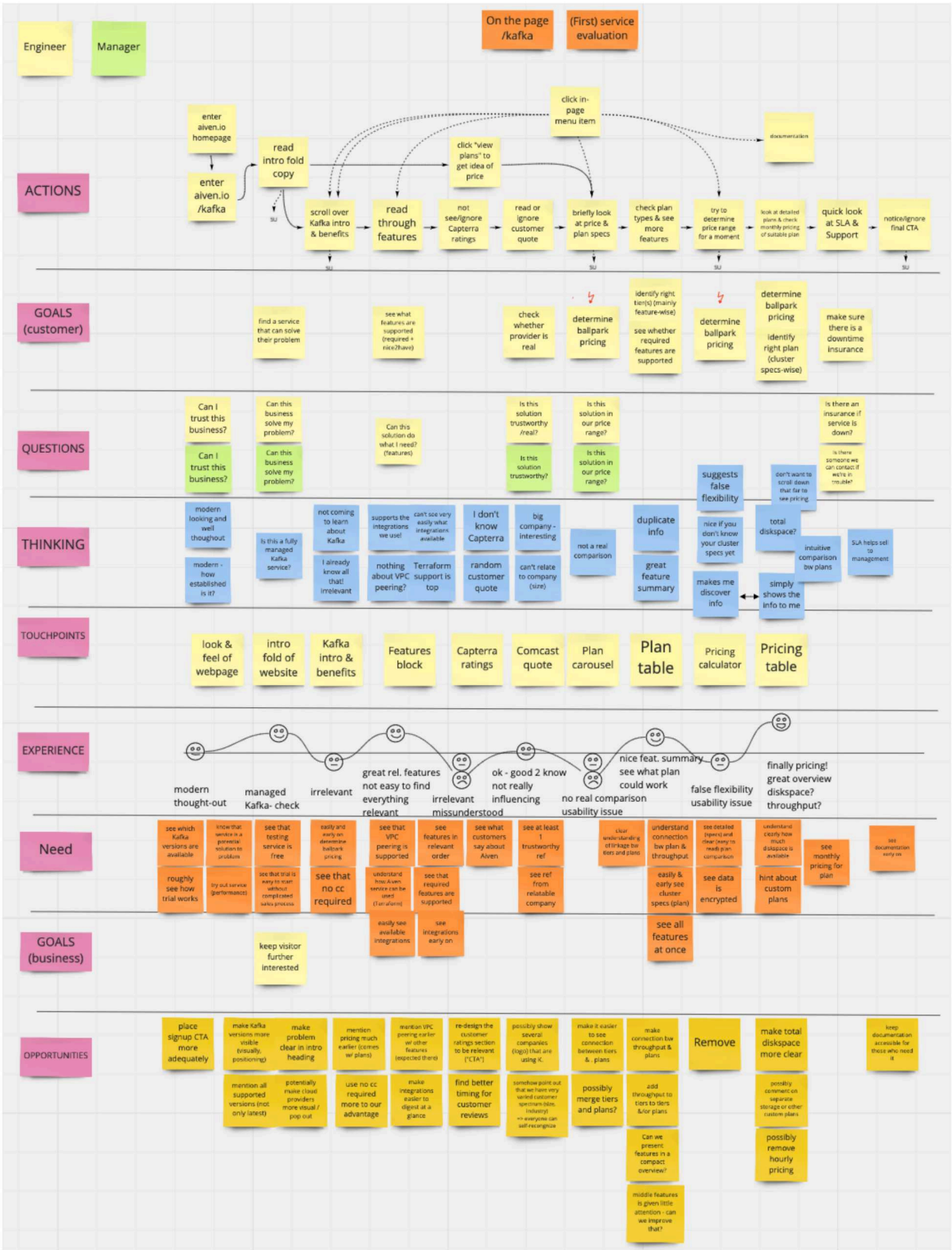


Figure C.1: Visitors' on-page journey