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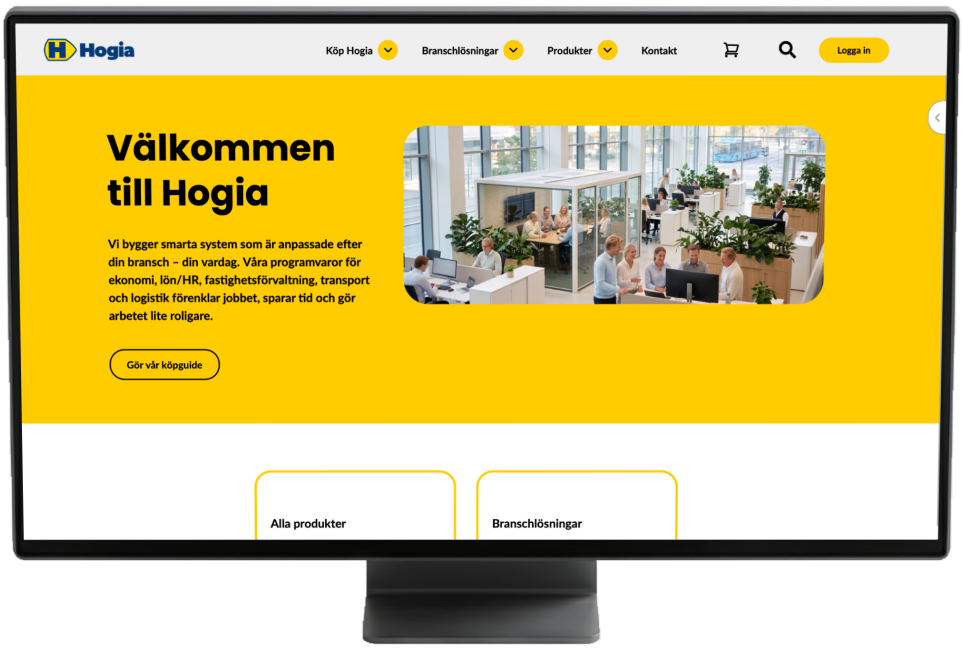

The Future of Digital Sales

A User-Centered Approach to Develop an Online SaaS Purchasing Experience

Master's Thesis in Product Development

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CHALMERS UNIVERSITY OF TECHNOLOGY
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Abstract

The Business to Business SaaS sales landscape is currently undergoing a transformation as customer behaviors shift away from traditional sales models. Due to its inherent complexity and traditionally lengthy manual purchasing processes, transitioning these customer journeys into a self-service digital environment introduces significant challenges to both providers and customers.

To address these challenges, this study examines the specific needs and requirements of B2B SaaS customers. Utilizing a Research through Design approach, it proposes a user-centered solution grounded in usability and cognitive ergonomics theories. Developed for the Swedish SaaS provider Hogia, the study demonstrates how a complex digital purchasing process can be designed and integrated into a broader service system offering.

Keywords: Digital Sales; User experience design; Service design; Service prototyping; SaaS sales

Acknowledgments

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A heartfelt thank you goes to our industry supervisors at Hogia, Victor Bergh Alvergren, Frida Ekenberg and Johan Thorell, whose expertise, direction and willingness to help, shaped our work.

We are also immensely grateful for everyone who dedicated their time and effort to contribute to our study through interviews, surveys and tests. Your invaluable insights and engagement made this project possible.

Finally, as we conclude five unforgettable years at Chalmers University of Technology, we want to thank all the people who shared this journey with us, creating memories and shaping us into the individuals we are today.

Use of Generative AI

Large Language models (LLM:s) have been used for text refinement and code generation. Google Gemini was used for both purposes. Text refinement included grammar improvement, suggestion of academic tone and translation of specific words or terms from Swedish to English. Generative AI was used to generate reusable structural LaTex code templates, e.g. for formatting figures and tables. Generative AI was also used to transform material in the form of tables, questionnaires and interview guides into LaTex code. It was also used to generate LaTex code references. Note that all generated content was carefully reviewed to ensure it did not change or differ from the content in the input. This is an example of a Gemini-prompt:

> *"Turn this questionnaire into Latex format so that I can add it to my Appendix, do not include doubles of questions if there are any. Otherwise, include all of the questions and its respective answer alternatives. Keep the order."*

In addition to the report related use of generative AI, it was also used during concept development to generate functional code based on wireframe designs. For this purpose, Figma Make combined with Claude, Gemini and ChatGPT was used. How this was done is further discussed in the report, an example prompt is available in Appendix F.

Contents

1 Introduction

The landscape of Business-to-Business (B2B) sales is transforming because of changing customer behaviors. Today, customers are shifting away from traditional sales models. 72% of B2B buyers have completed a significant transaction entirely online and 61% of buyers express a clear preference for a "rep-free" purchasing experience (Gartner, 2025). This behavioral shift places increasing pressure on providers to deliver alternative purchasing flows. The complex Software-as-a-Service (SaaS, a cloud-based software delivery model) sector is no exception to this trend. Due to its inherent complexity and traditionally lengthy manual purchasing processes, transitioning these customer journeys into a self-service digital environment introduces significant challenges to both providers and users. To investigate these challenges in a real-world setting, this study explores the transformation of purchasing processes in collaboration with the Swedish SaaS provider Hogia. The following subsections outline the aim, objectives, limitations and research questions in this study.

1.1 Aim

The aim of this study is to investigate the needs and requirements of B2B customers within small to medium-sized companies during complex Software-as-a-Service (SaaS) purchasing processes. Utilizing a Research through Design approach, the study further aims to leverage these insights to develop a user-centered solution grounded in usability and cognitive ergonomics theories. Ultimately, this study serves to demonstrate how a specific digital purchasing process can be designed and integrated into a broader service system offering, while thoroughly evaluating the resulting user experience.

To support the aim, the following research questions were defined:

- RQ1 - What needs, requirements, and key parameters influence the B2B SaaS purchasing process for small to medium-sized companies?
- RQ2 - How can a user-centered digital sales experience be designed to facilitate complex B2B SaaS purchasing flows?

1.2 Limitations

The scope of the study is limited to the purchasing process of new customers. This area was selected because of the journey complexity, high strategic value, and the existing gap within the partner company. Consequently, post purchase expansion or recurring purchases (purchases of additional features or users licenses, modules or quota) will not be explored in this study.

Furthermore, the scope is restricted to the sales process of Swedish SaaS providers targeting B2B customers in the Swedish market. This was selected in alignment with the partner company's target market. Finally, the study is limited to smaller or mid-sized companies that does not have institutionalized bureaucratic procurement processes in place since those are not suitable for self-service digital sales.

2 Background

The working environment is becoming increasingly more digital, and this creates new challenges and opportunities for companies to reach established and new customers. Digitalization of products and work has been an important topic during the past two decades, and it is still a highly relevant topic as companies are researching how to continue to find ways to change and transfer their solutions into a digital environment. A relevant topic and area of digitalization that has emerged over the last couple of years is the digitalization of sales processes within companies. According to Friess et al. (2024) companies have become increasingly aware of and interested in digital solutions as they promise higher productivity.

Given this context, an interest emerged regarding how the product development process and user-centered design can be used to enhance and implement a digital purchase experience for the customer. Traditionally, much of the sales process has been done via human interaction, but this is changing as the market moves towards more digital solutions. To complement the marketing side, product design can be used to create a solution that focuses on the usability of the new platform based on customer needs. This new digital environment also creates an opportunity to research the possibility of improving the broader service offering to enhance the complete purchasing experience of future customers.

The partner company of this project is Hogia which specializes in the development and sales of complex SaaS systems. Hogia provides general system solutions for areas such as business, salaries and HR across multiple industry sectors. They also provide more sector-specific solutions such as tracking systems for public transport or property management systems for the real-estate to name a few. Hogia was founded in 1980 and started with offering an accounting software but have over the years grown and are now offering IT solutions for multiple industry sectors (Hogia, 2025). Being in the IT sector and selling digital products makes Hogia suitable for exploring a digital sales experience as their products can be made available directly after a purchase has been made.

As mentioned in the introduction, in general B2B sales, recent research suggests that 61% of B2B buyers prefer an overall rep-free buying experience (Gartner, 2025). 73% of B2B buyers claims to actively avoid suppliers who send irrelevant outreach and many of them are frustrated with inconsistencies between information on the sales organization's website and that provided by sales representatives.

Also, most buyers are already familiar with online purchasing, "72% Of B2B buyers have completed a significant transaction through digital commerce" (Gartner, 2025). B2B buying behavior is also changing. Buyers define their needs before speaking to sales; 97% check the website first (James Heron, 2025).

While general B2B commerce trends are well-documented, limited research specifically addresses user needs and requirements within the context of complex SaaS purchasing processes. This study aims to explore that gap, specifically the needs and requirements of B2B SaaS customers in the context of the Swedish market.

3 Theoretical Framework

The theory presented in this chapter sets out to establish a frame of reference when it comes to researching and designing a digital product with a focus on user-centered design. Theory regarding usability, user experience, cognitive ergonomics, design principles and service design will be explained to generate an understanding for the subjects that will be investigated during this study. Usability is a fundamental aspect of the user experience (Norman & Nielsen, 1998) and consist of different components (Jordan, 2002) that can be addressed to increase the usability of a product. With the usability addressed it is important to broaden the perspective by applying knowledge regarding user experience and user experience development. A part of broadening the perspective was to research the impact of cognitive ergonomics on individual users and how this can shape their experience. With increased knowledge about how the user experiences and interacts with a product, different design principles can be applied to ensure that the user experience becomes as intended. Finally, service design tackles the customer journey as a whole and creates a foundation for where the user interface can be implemented.

3.1 Usability

While researching and developing a product with a strong focus on achieving a user-centered design that meets the needs and requirements of the user, the term Usability will inevitably be encountered. Evaluating the usability of a product is an important aspect in achieving a user-centric design that meets the needs of the customer, as it considers how individual differences can affect how usable a product is (Jordan, 2002). Jordan (2002) mentions that aspects such as experience, domain knowledge, cultural background, disability and age and gender can impact the experience of using a product. For example, the same product can be usable for one individual and be unusable by another at the same time. Striving to achieve good usability increases the chances of designing a product that is easy to use. Usability is an area within design and UX design that has been well researched, but it can still be difficult to explain what it is since the usability of a product can change based on its current context and user. As the goals and experiences evolve so does the usability (Goodwin, 1987). One of the difficulties of achieving a high level of usability seems to be the ever-changing conditions the product might find itself in. This highlights the importance of identifying the needs and requirements of the user before developing new solutions.

The term usability might be troublesome to summarize into a distinct and concise explanation, however there is a definition defined by International Organization for Standardization (2013), and it is the following: "Usability is the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use". Effectiveness considers to what extent the intended goals are fulfilled, and efficiency the user's resource demands to fulfill the chosen goal. Satisfaction states the importance for users to achieve satisfaction through their experience of interacting with the product.

Furthermore, Nielsen (1993) also discusses usability and argues that usability is not one specific aspect of the interaction with a system or a product. Rather it is constructed of several components such as: *Learnability, Memorability,* and *Errors*.

Jordan (2002) also reflects upon usability as being made up of components and justifies this with the argument that the performance of a user interaction with a system will change over time. For every time the same tasks are repeated within the system the experience of usability can increase. To highlight these aspects of user interaction Jordan (2002) presents various usability components such as: *Guessability, Learnability,* and *Re-usability*. Many of these components are similar and share aspects with Nielsen's attributes.

3.1.1 Usability Attributes and Components

Learnability

Learnability focuses on the fact that it should be an intuitive and fast learning curve for new users to get started working with the system, so that their first impression of the system is that it was easy to learn (Nielsen, 1993). This puts an emphasis on making the onboarding time as short as possible so that people can start using the system.

Guessability

Jordan's (2002) definition of guessability concentrates on how well the user can interact with a system whilst performing a task for the first time. So, if a user can perform a task successfully on the first try, the system can be seen as having good guessability.

Memorability

Memorability concerns a casual user and they can be seen as a user who understands the system and has experienced it before (Nielsen, 1993). Here, the user relies on what they can remember from previous interactions with the system when revisiting it.

Errors

One goal when working with usability is to minimize the risk for user errors and here an error is defined as an action, performed by the user, that has an outcome that differs from the one intended by the user (Nielsen, 1993).

Re-usability

According to Jordan (2002), the factor of re-usability accounts for the possible decrease in performance that might occur when a significant time has passed in between specific tasks. For a time-period to be classified as significant, a couple of months between repetitions need to occur. The decrease in performance stems from the fact that the user can forget how to complete a task due to the lack of repetition.

3.2 User Experience

The term usability covers how effectively and efficient a specific task can be carried out, but achieving a high level of usability is not the only important aspect to consider when designing and developing a new product. User experience is a term that takes a broader approach to how the user interacts and experiences a product (Norman & Nielsen, 1998). The primary goal for achieving a good user experience is to fulfill the needs of the customer, but it goes further than that. Products should also be elegant and fun to use and interact with, and the overall experience should be effortless. To create this experience, it requires interaction between different disciplines within a company, such as engineering, marketing and design. Kaplan (2024) emphasizes that as UX design is implemented to meet the needs of the customer it should be done with a broad perspective to recognize the needs of multiple users.

Furthermore, Kaplan (2024) mentions that it is important to distinguish between UX (User Experience) and UI (User Interface), as it is common that these terms get mixed up with each other. UI refers to the different building blocks of a system or product that form the points of interaction that allow the user to operate it. For example, it can concern the design and placement of different buttons but also other design elements such as images and icons. Therefore, UI is an important aspect to consider when designing a new product but as with usability, it is part of the overall user experience. As mentioned by Kaplan (2024), UX design considers all the interactions points with a company not just the design of the product interface. Norman and Nielsen (1998) also discuss the difference between UI and UX and emphasize the importance of considering the UI of a product, but that it is important to realize that great UI cannot make up for a lack in understanding of the user when it comes to their experience.

3.3 Cognitive Ergonomics

As mentioned above, working with user experience goes beyond developing solutions that complete the tasks effectively. It also covers the individual experiences the user has while interacting with the product. Therefore, the aspects of cognitive ergonomics become an important part to understanding and improving the user experience. Cognitive ergonomics focuses on how human cognition affects the experience of interacting with a system or product (Hollnagel, 1997). A key aspect being perception, since individuals might approach a product differently based on how they have interpreted the situation. Applying cognitive ergonomics theory during the design process helps to improve the overall system experience as the focus is applied to the relationship between the operator and the machine.

3.3.1 Attention

One important aspect within cognitive ergonomics is how people manage their attention, as the management of attention has a significant impact on what a person becomes aware of. Wickens et al. (2012) described four different aspects of attention: selective, focused, divided, and sustained attention. Selective attention is used to direct the attention over time. Here the user chooses what they are currently are focusing on. Focused attention can be seen as a type of attention that is used to avoid distractions by limiting the attention to a more specific area. Divided attention is applied when the user needs to receive information from multiple sources. Here the area of attention is widened to allow the person to perceive more of their surroundings. Lastly, sustained attention refers to the time an individual can stay focused enough to remain vigilant.

Furthermore, attention can be influenced by different aspects such as cues and visual representation (Wickens et al., 2012). For example, reducing clutter by organizing related items into columns or rows, or keeping the visual items to a minimum, helps to direct and focus attention. In addition, color and other cues can be used to attract the attention of the user to ease visual search and alert the user of potential problems.

3.3.2 Mental Resources

Another aspect of cognitive ergonomics is mental resources, which refer to the resources used to manage attention and perform tasks that require mental effort. These mental resources are not endless and there is a limit to how much mental effort a person can be exposed to (Wickens, 2008). Wickens talks about a pool of limited resources which can be utilized for task performance and completion.

3.3.3 Mental Models

Theory concerning mental models and their creation has been used to better understand how individuals perceive their surroundings and the objects they interact with. Mental models can be seen as an individual's own internal representation of how something works and it can be used for both social and physical dynamics (Jones et al., 2011). These models can be highly individual since they are formed through a person's own experiences and are continuously evolving as a person experience and learns new things. Because mental models are ever changing and unique it makes them difficult to measure and they can become inaccurate, as emphasis is put on functionality instead of accuracy. Furthermore, even though mental models can be difficult to measure they are possible to elicit through interviews and data analysis. The elicitation of mental models can be important as people tend to use their existing models to understand new situations by searching for parallels between them.

3.4 Design Principles

To be able to design an interface that enables the user to perform and understand the system as intended, it is crucial to understand how humans tend to interact with an interface as they use it.

3.4.1 Norman's Fundamental Psychological Concepts

An important aspect of this interaction is when a user first learns how to use a system and what it can be used for. Norman (2013) describes this as the discoverability of a product which is based on six fundamental psychological concepts: *affordance, signifiers, mapping, feedback, conceptual model* and *constraints*.

Affordance

Affordance signifies the relationship that occurs between a user and the physical object during use and determines what the user is capable to do based on what their individual conditions allow (Norman, 2013). Moreover, the relationship is also determined by the properties that the object exhibits and what these allow the user to accomplish.

Signifiers

The aspects of a product that tells the user how they should operate it are called signifiers, and contrary to affordance the focus is not on what the product can do, the focus is on communicating where the user should perform their actions (Norman, 2013). Signifiers can therefore be seen as clues that are given to the user to help them better understand how to interact with the product.

Mapping

Mapping concerns the relationship between the functions of the object and the layout of the controls that control the object (Norman, 2013). Designing the layout and actions of the controls to resemble the actions of the product when operated makes the interaction more organic and the user is able to learn the controls quicker.

Feedback

A crucial aspect of design is the implementation of feedback; some form of communication between the system and the user that lets them know their action has been detected (Norman, 2013). Moreover, Norman (2013) highlights the need for feedback to be immediate, as a small delay is enough to make the user feel unsettled.

Conceptual Model

A conceptual model can be seen as a simplified version of system or object that generates an understanding of how it functions (Norman, 2013).

Constraints

Constraints in product design are used to limit the actions that can be performed with a certain product by influencing the user through the usage of strong clues (Norman, 2013).

3.4.2 Jordan's 10 Design Principles

Beyond the aspects of discoverability established by Norman (2013) that focus mostly on a user's first interaction with a product, Jordan (2002) presents ten design principles that will contribute to making the design of a product more usable. The ten design principles presented by Jordan (2002) are the following: *consistency, compatibility, consideration of user resources, feedback, error prevention and recovery, user control, visual clarity, prioritization of functionality and information, appropriate transfer of technology* and *explicitness*.

Consistency

A consistent design strives to ensure that similar tasks can be executed in similar ways (Jordan, 2002). This consistency is not limited for tasks within a product it can also appear between two similar products.

Compatibility

Compatibility in design, according to Jordan (2002), revolves around creating a product where the way it works aligns with how users expect it to work. The expectations of the user have been formed by a generalized view of previous situations and is used while

exploring new products.

Consideration of User Resources

Operating a product may require the user to use different types of resources such as processing both visual and auditory information (Jordan, 2002). While designing a product it is important to have these limitations in mind, as it can cause the user to become overloaded.

Feedback

The interface of a product should communicate with the user by providing clear feedback that is based on the user's actions (Jordan, 2002). This feedback should communicate both that the user's actions have been identified by the system and the result of the actions performed.

Error Prevention and Recovery

Jordan (2002) mentions that as users are interacting with a product the possibility of performing an error becomes significant since human errors are difficult to prevent. A solution for coping with these potential errors is to incorporate design elements that will prevent common errors and help the user to quickly recover ones an error has been performed.

User Control

An important aspect of usable design is to allow the user to have a high level of control while they are interacting with the product (Jordan, 2002). The user should be able to adjust the settings according to their preferences and the design should allow the user to decide when it is appropriate to receive information.

Visual Clarity

While designing products, it is important to consider how information should be displayed to the user (Jordan, 2002). The information that is being displayed should be easy and quick to read, and it should also be presented in such a way that it does not confuse the user.

Prioritization of Functionality and Information

While designing products, both digital and physical, it is important to consider how information should be displayed to the user (Jordan, 2002). The information that is being displayed should be easy and quick to read, and it should also be presented in such a way that it does not confuse the user.

Appropriate Transfer of Technology

To increase the usability of a design, already existing technology can be transferred to the product if deemed appropriate (Jordan, 2002). Transferring already existing technology can come with many benefits as users might already be familiar with how the solution works and can therefore lower the threshold for usage.

Explicitness

Explicitness refers to that the design of a product should provide the user with cues so that they are able to understand how they should operate the product and the available functions (Jordan, 2002).

3.5 Service Design

Service design as an emerging field can be defined in the following way: “Service design addresses the functionality and form of services from the perspective of the user. It aims to ensure that service interfaces are useful, usable, and desirable from the client’s point of view and effective, efficient, and distinctive from the supplier’s point of view. ” (Mager, 2009, p.34).

While Service design fundamentally builds upon the proven methods and practices of traditional product and interface design, it also connects to the field of marketing. However, Mager (2009), claims that service design goes beyond the foundations of these fields, focusing on “service-specific challenges". Maglio et al. (2009) argues for an emerging revolution in business and economics, following an ongoing shift from goods-dominant logic to service-dominant logic. According to him, the fundamental basis of economic exchange is changing and the process of creating value for others is shifting from goods to application of competence.

3.5.1 Service System

A fundamental term for understanding Service Systems is the term Service. Maglio et al. (2009) defines the term Service as “the application of resources (including competences, skills, and knowledge) to make changes that have value for another (system).” A service requires at least two entities: One providing the service through applying resources. The other one receiving the service, which integrates the applied resources with existing resources to determine the value. Such interacting entities makes up the service system. In other words, the service system is a dynamic value co-creating unit including resources, technology and connections to other service systems (Maglio et al., 2009).

3.5.2 Customer Experience

Lemon and Verhoef (2016) claims that there is a general agreement that the total customer experience is a multidimensional construct of cognitive, emotional, behavioral, sensorial and social components in relation to a firms offering during the entire customer purchase journey.

De Keyser et al. (2015) emphasises that Customer Experience (CX) is always formed in the interaction between customer and market actors through some kind of interface, e.g. frontline employees and self-service technologies, and cannot emerge from the product itself but the interaction. Further, there is a specific level of uniqueness to every CX and it is of multidimensional nature. Customer experience can ultimately be defined in the following way: "Customer experience is comprised of the cognitive, emotional, physical, sensorial, and social elements that make the customer's direct or indirect interaction with a (set of) market actor(s)." (De Keyser et al., 2015, p.15).

CX is always personal and unique, it is grounded in the customer's own sphere, meaning a service encounter can be experienced differently in different occasions. CX is also embedded in multiple layers, meaning that the experience is influenced by multiple providers within a larger constellation rather than being formed in isolation (De Keyser et al., 2015).

Patrício et al. (2011) argues that firms introducing online services without an understanding of customer experience, needs or the firms multi-face offering is at risk of providing an unsatisfying service experience. It is common that the result consists of a collection of inherent service fragments that cannot deliver satisfying service experiences to customers.

3.5.3 Customer Journey

Lemon and Verhoef (2016, p.71) refers to the customer purchase journey as "the process a customer goes through, across all stages and touch points, that makes up the customer experience". Patrício et al. (2011) defines the customer journey in a similar way, "a series of touchpoints, involving all activities and events related to the delivery of the service from the customer's perspective". In this study, the customer journey will be referring to the process a customer goes through, including all stages and touch points related to the product or service, that collectively makes up the customer experience.

The customer journey can be divided into three stages, pre-purchase, purchase and post-purchase (Lemon & Verhoef, 2016), explained as the following:

Pre-Purchase - consists of all the aspects and touch points of customer-interaction with the providers brand influencing the user experience before a purchase is made. This includes activities such as need recognition, information search and consideration of options.

Purchase - consist of all the aspects and touch points of customer-interaction with the providers brand and environment during the actual purchase. This includes activities such as selection, ordering and payment.

Post-Purchase - consists of all the aspects and touch points of customer-interaction with the providers brand and environment after the purchase has been made. This includes activities such as, usage, consumption, post-purchase engagement and service requests. Practically, every touch point with the service, product or brand. Theoretically, for the rest of the customer's life.

4 Methodology

This section introduces the overall methodological approach in the study, grounded in Research through Design. Multilevel Service design is utilized as a framework to understand the context and enable integration of touchpoint- specific designs into a holistic service concept. The following sections outline the methods used throughout the project to gather and analyze data, as well as the processes for generating and evaluating concepts at both service and touchpoint levels.

4.1 Research through Design

The main research approach utilized in this study is Research through Design (RtD). Zimmerman and Forlizzi (2014) defines RtD as "a type of research practice focused on improving the world by making new things that disrupt, complicate or transform the current state of the world". In RtD, design activities are seen as tools not only to apply but also generate knowledge. The generative process of ideation and concept development leads to insights and valuable knowledge that can be shared with others, assisting future research (Stappers & Giaccardi, 2014).

The RtD approach combines engineering, anthropology and behavioral science knowledge to imagine many possible solutions (products, services or systems) to advance the current state of the world (Zimmerman & Forlizzi, 2014).

The model "Research through design in HCI" proposed by Zimmerman et al. (2007), builds on the idea of design being a repeating process aiming to re-frame a problem through proposing new possible solutions.

For the purpose of this study, building on the definitions by Zimmerman and Forlizzi (2014) and Stappers and Giaccardi (2014), RtD is defined as the overarching methodology where the design process is adopted as a systematic approach. In this context, design practices are used to create solutions, and generate transferable knowledge, assisting future research and industry implementation in the area.

4.2 Data Collection Methods

Both primary and secondary data collection was utilized. Primary data collection was performed through a mix of qualitative and quantitative methods including, interviews, surveys with questionnaires and observations. Secondary data collection was performed through literature review and benchmarking.

4.2.1 Literature Review

Literature reviews can be used to gather information regarding the main topics of the project to enhance the understanding of the issue, and to generate a picture of the current state of research. According to Bligård (2015) literature reviews can be used as a tool for gathering background information for a project. Additionally, it can also be used for generating an understanding of the current research landscape. The information for literature reviews can be found through different sources, for example, information can be collected from books, scientific publications and other project reports.

The literature studies themselves were conducted by using different online platform and tools, such as Chalmers Library, Ebesco and Scopus databases, to search for relevant books, reports and articles. During the search various keywords were used to narrow down the outcome. Examples of such keywords could be: UX and UI design, cognitive ergonomics, display design, service design, B2B- sales etc. The sources that were found to be relevant were saved in a document and rated after relevance. The results of the literature review can be seen in Chapters 2 and 3.

4.2.2 Benchmarking

The method of benchmarking is used to compare and collect data from companies and competitors that are considered to have established the best practice of specific processes (Johansson & Abrahamsson, 2015). Analyzing the collected data promotes learning and results in an improved understanding of the current technology and process landscape, which can help to improve the product offering and make it relevant on the market.

4.2.3 Pilot Study

Pilot studies can refer to a short version of a full scale study or specific pre-testing of questionnaires, interview guides or other research instruments (van Teijlingen & Hundley, 2001). The purpose of conducting a pilot study is to increase the likelihood of success in the real study. For example, it can be used to design and asses research protocols, uncover potential problems, training the researcher and more (van Teijlingen & Hundley, 2001). In this study, pilot studies were conducted at multiple occasions. First to develop and assess the interview guide in the user study, secondly to develop and asses the user test and the service prototype.

4.2.4 Interviews

According to Osvalder et al. (2015a), interviewing is the most basic method to understand how people think. Interviews yields knowledge about a persons views, experiences, beliefs and an understanding of their reasoning. A semi-structured interview is a combination of a structured and unstructured interview. Semi-structured interviews consists of both closed and open ended questions to enable a more systematic analysis as well as an opportunity for the interviewer to lead the discussion into pre-defined topics (Osvalder et al., 2015a).

In this study semi-structured interviews were deployed as the main method of collecting qualitative data at multiple stages of the process to gather views, thoughts and behaviors of users and experts.

4.2.5 Observations

Observations is a qualitative research method which can provide valuable insights about human behavior, interactions and environments (LIS Academy, 2024). In this study, semi-structured. open observations in a laboratory environment was conducted as a part of the user studies. In this case, the observations were combined with interviews in order to understand user behaviors in existing SaaS sales platform interfaces.

4.2.6 Mediating Tools

Star and Griesemer (1989) defines the boundary object as something that adapts to the local needs of the ones using them while still being robust enough to maintain a common identity across different sites. It's purpose is to facilitate communication, allowing people with different backgrounds to successfully work together. A type of boundary object is sometimes called mediating object or mediating tool. According to Osvalder et al. (2015a), pictures, photographs and real products can be used as such mediating tools. In this case product sales websites of the partner company and their competitors were used as mediating tools in order to facilitate the discussion in parts of the interviews.

4.2.7 Questionnaires

The questionnaire is a subjective data collection method where participants share their opinions in writing. Questionnaires can be seen as a type of structured interview where the interviewer is not present. The primary aim of a questionnaire is to gather information from many persons in a short amount of time. To ensure data quality, questions should be clearly formulated and unambiguous (Osvalder et al., 2015a, Section 9.2.3).

4.2.8 Surveys

According to Denscombe (2014), the purpose of the survey is "seeking the necessary information from relevant people and relevant sites". Surveys are used to provide a snapshot of how things are at a specific point in time, offering a wide and inclusive coverage of the people or things being investigated. Denscombe (2014), further argues that the survey itself is not a method but rather a research strategy that can be used together with different data collection methods.

In this study, the survey was deployed as a quantitative data collection method, conducted using questionnaires distributed via email, social media and telephone. The digital versions were self-administered while the sessions via telephone were interviewer-administered. In this case, the interviewer remained strictly adherent to the existing questionnaire structure to minimize interviewer bias.

4.3 Analysis Methods

This section will present the methods that were used to analyze the data that was gathered during the study. The methods in this section focus on facilitating a structure while analyzing the data, making it more comprehensible.

4.3.1 Hierarchical Task Analysis

To better understand the steps and actions a user needs to take to complete a task, a Hierarchical Task Analysis (HTA) can be performed (Bligård, 2015). A HTA is performed by identifying the main goal of the task and thereafter listing the subtasks that need to be completed to reach the main goal. When all the subtasks have been identified, the next step, if deemed possible, is to deconstruct the individual subtasks further into smaller subtasks.

4.3.2 KJ-Analysis

When the data collection phase has been concluded and a large amount of data has been gathered it is time to analyze it to identify the key findings. A useful tool for analyzing a larger amount of data is a method called KJ-analysis. The name originates from Jiro Kawakita, a Japanese anthropologist, and the method is suitable for analyzing large amounts of data (Bligård, 2015). Performing the analysis results in a compilation of data that can facilitate an overview. During the analysis a unit of data is written down as a note and these notes are then grouped according to their content. As the groups are formed different themes will start to emerge, which will influence the final

heading that the groups receive. Working this way, according to Bligård (2015), can be seen as a *bottom-up* process where detailed information is examined in the beginning that later generates a general overview of the data. This eliminates the need to formulate predetermined groups because they are created as a part of the analysis.

4.4 Concept Generation

The methods mentioned in this section focus on transforming the needs and requirement found during user studies into concrete metrics, and generating ideas for solving the identified user needs as well as the established metrics.

4.4.1 Requirements List

A list of requirements is a list of metrics that the product must fulfill. Ulrich et al. (2020) calls this product specifications where metrics and associated values regarding what the product must accomplish are listed. The reason for creating a product specification or list of requirements, according to Ulrich et al. (2020), is to transform the previously identified customer needs into detailed and specific metrics to better support design and development. An important aspect of the product specification is that the requirements do not specify how they should be fulfilled, they only say what metrics the product needs to achieve.

4.4.2 Brainstorming

Brainstorming or internal search as Ulrich et al. (2020) calls it, is a creative method used during concept generation, for example, to utilize the knowledge and information that each member of the team already possesses. Team members are encouraged to generate as many ideas as possible and to use sketches and sketch models as tools for visualization to facilitate an improved understanding and feel for the different ideas. Furthermore, since the intention behind the method is to be creative it is important to establish an environment free of judgment and not discard ideas based on their feasibility.

4.4.3 Function-Means Modeling

During the concept generation phase Function-Means modeling can be used to encourage variation in ideas for possible solutions that can be used to accomplish the functions and the main function. A function can be seen as the relationship between inputs and outputs that need to be established to fulfill the main task of the product (Pahl et al., 2007). Functions are usually stated by a verb and a noun and are not linked to specific solutions. Moreover, subfunctions can be created by dividing the overall function

based on the different subtasks. The relationships between the different functions are visualized using a tree-structure where the subfunctions are linked to the parent function in a hierarchical relationship.

The function tree-structure can then be used as the basis for Function-Means modeling. For each function there will be at least one mean that will accomplish the effects of the function, defined by a causal relationship (Hansen & Andreasen, 2002). These causal relationships can be structured in the function tree, which creates a Function-Means tree that is divided into function levels and means levels, displaying the corresponding causal relationships. Beyond the application of visualizing a product's functions and the means needed to accomplish said functions, the Function-Means tree can be used to facilitate new design solutions. By establishing means that could fulfill functions, designers are encouraged to find various means which results in the creation of multiple possible solutions. See Chapter 7.1 to see the result of the Function-Means modeling.

4.4.4 Wireframes

Wireframing is a tool that can be used during the early stages of concept generation for a website or other digital applications. The task of the wireframes is to showcase the basic functionality of each individual frame and to facilitate the creation of the design structure, which could include image, text and header placement (Hamm, 2014). Additionally, an initial understanding of the product can be created by showing all the individual wireframes together. Moreover, the design of the wireframes tends to start out with low fidelity, where design elements are visualized by the placement of basic shapes and outlines in black and white color. By iterating the design, the level of fidelity will increase over time.

4.4.5 AI-Augmented Prototyping

Prototypes are excellent to allow concepts to be tested and validated with the user. However, developing high quality prototypes in design software such as Figma is tedious work, requires various professions and is limited in terms of functionality (Bilgram & Laarmann, 2023).

AI-augmented prototyping is an alternative process to traditional prototyping where Large Language Models (LLMs) are utilized as text-to-code generators allowing the designer to describe the digital product in natural language instead of writing code. In addition to enabling nontechnical users to generate programming code, it speeds up iteration cycles and enables more advanced prototypes in terms of functionality. Bridging

the gap between abstract concepts and user test ready prototypes (Bilgram & Laarmann, 2023).

In this case, Figma Make was utilized in combination with multiple LLMs such as Claude, Gemini and ChatGPT in order to develop advanced functional prototypes for user testing and clear communication of complex concepts.

4.5 Multilevel Service Design

Multilevel Service Design (MSD) is an interdisciplinary method for designing complex service systems developed by Patrício et al. (2011). MSD incorporates methods and frameworks from multiple disciplines: service development, interaction design and service design to enable integrated development of complex service offerings. MSD is a systematic process that consists of four sequential steps, where the final three steps result in three hierarchical levels:

1. **Studying the Customer Experience** is the foundational step of MSD which requires a thorough user study to understand the needs of the user and the activities within the customer journey.

2. **The design of the firms service concept** within the context of the Customer Value Constellation (CVC) is the highest strategic level of the design within MSD.

3. **Designing the firms service system** through the Service System Architecture (SSA) and Service System Navigation (SSN) is in the middle strategic level.

4. **Designing each specific touchpoint** or service encounter through the Service Experience Blueprint (SEB) is in the lowest strategic level of the MSD.

In other words MSD enables firms to create a holistic understanding and develop the complex structure of its complete service offering. Allowing each specific touchpoint to be designed with the intention of contributing to the user experience of the complete service offering. Ultimately allowing the firm to define its service concept within the broader context of a co-creative value system together with the customer and other service providers.

In this study, MSD is utilized as a framework to understand the complex context around the solutions developed in specific touchpoints. To align development with the existing service concept, identify gaps in the service offering and suggest sufficient improvements to enable integration of these solutions. In other words to create a holistic understanding

of the existing context in order to ensure value of proposed solutions. It allows crucial touchpoints to be pinpointed and it guides concept development efforts in these specific touchpoints with respect to the surrounding context. The fourth step was modified since no SEBs were designed. Instead the solutions in the specific touch points were designed much more thoroughly with the methods presented in 4.4.

4.6 Service Design Methods

The Service Design methods or sub-methods of MSD used in this study (CVC, SSA, SSN) served multiple purposes. The methods were used both to analyze the existing service offering and to develop new service offerings.

4.6.1 Customer Value Constellation (CVC)

Traditionally, a service concept is defined within the boundaries of the service providing firm (Patrício et al., 2011). Customer value constellation (CVC) is a design model used at the highest level of MSD, that provides a broader representation of a service offering. It goes beyond the boundaries of the individual service, by putting the customer's overarching activity in the center of the network and mapping relationships between multiple service providers (Patrício et al., 2011). In this project, the overarching activity was defined as "Uphold and streamline business critical operations" and the complete CVC, including the firm's, internal and other service providers was mapped (see Chapter 8.2).

4.6.2 Service System Architecture (SSA) and Service System Navigation (SSN)

The Service System Architecture (SSA) and Service System Navigation (SSN) are interrelated models defining a firms multi-interface service system (Patrício et al., 2011). The SSA provides a static view of the service system structure, visualizing how multiple interfaces, backstage processes and the customer integrates, facilitating value co-creation across touchpoints in the service system. The SSN adds a dynamic layer view to the SSA as it provides alternative customer paths across touchpoints in the SSA, where each path represents a potential customer journey. The SSN helps identify service interface links and allows modeling flexible use of services and analysis of different unique navigation paths (Patrício et al., 2011).

In this study, SSA and SSN were utilized both to analyze the existing service concept of the partner company and to develop new service concepts.

4.7 Concept Evaluation

Different methods were used to evaluate the concepts on multiple levels. Usability testing was deployed to evaluate the design of certain touchpoints while Service prototype evaluation supported by storytelling and Wizard of OZ prototyping was deployed to evaluate the user experience of a broader part of the service concept. The experience of the service prototype was evaluated using multi item scale building on the EXQ-method.

4.7.1 Usability Testing

A usability test is used to evaluate the usability of a product or prototype, and it is done by asking the intended user of the product to perform several tasks, while observing their behavior and actions (Osvalder et al., 2015b). Implementing usability tests in the prototype stage of product development reduces the risk of launching a product that is difficult to use since it allows for problems during usage to be discovered earlier. Generally, due to the nature of the test and potential prototypes, the test is performed in a controlled environment, such as a laboratory, but they can also take place in a realistic scenario where the prototype is placed in its intended context.

Conducting usability tests facilitates the analysis of how well a first-time user can interact with the product or interface as the test often includes aspects such as how easy it is to learn and use the product. Moreover, the tests are usually documented through recordings which can generate quantitative data such as the amount of time it takes to complete a task and number of errors. In addition, through conducting interviews where the user is asked to assess the outcome of the test, qualitative data can be gathered.

4.7.2 EXQ

EXQ is a multiple item scale with the purpose of measuring the customers service experience (Klaus & Maklan, 2012). The service experience is defined as the customers assessment of all encounters with a service provider. EXQ measures the service experience in four primary dimensions: Product experience, Outcome focus, Moments-of-truth and Peace-of-mind. Klaus and Maklan (2012) claims that these four dimensions forms the overall customer assessment of the service experience which also affects their future purchasing behavior.

In this study, the EXQ-scale was used to guide the development of an item scale used to evaluate the customers perceived experience of the service prototype.

4.7.3 Storytelling

While evaluating prototypes, storytelling can be used in order to explore deeper levels of cognition and emotional responses from users. Storytelling relies on scenarios, narratives and personas (Spaulding & Faste, 2013). In this study, a scenario was developed to immerse the user in a context, support understanding and provoke deeper engagement.

4.7.4 Wizard of Oz Prototyping

Wizard of OZ prototyping, or the Oz paradigm is a prototyping technique that lets the designer give the user an illusion of interacting with a fully functional prototype. In reality, the prototype can be partially built, or not built at all (Kelley, 1984). In this study, this technique was used to simulate certain parts of the interface during service prototype evaluation to support the holistic experience without developing the solution fully.

4.7.5 Service Prototype Evaluation

The practice of service prototyping is loosely defined. Blomkvist (2011) claims that service design practitioners define the practice in different ways, ultimately it can be characterized as a collaborative activity to make services visible, to learn about and to communicate services.

Evaluating service prototypes is challenging due to the complexity, inconsistency and intangibility of services (Blomkvist, 2011). While Blomkvist does not explicitly formalize the steps of the service prototype evaluation process, the approach applied in this project builds upon Blomkvist's practical process. The overarching approach involves defining which parts of the overall service design should be tested and defining a goal of what the prototype should achieve. Then the prototype is constructed, e.g. physical spaces, interfaces or scripts, and evaluated holistically form start to finish.

The overall purpose of service prototype evaluation is to move away from testing features or touch points in isolation. Instead, the method focuses on evaluating the complete, holistic service experience (Blomkvist, 2011).

In this study, the overall approach of service prototype evaluation was adopted.

5 Execution

The overarching design process, including its four general phases and respective methods, is illustrated in Figure 1. The execution was structured around a benchmark and audit phase, a user study phase, design and concept development and finally user testing and Evaluation. The project progressed iteratively, multiple cycles of user research, design, and evaluation were conducted, meaning several methods were revisited at multiple occasions throughout the process.

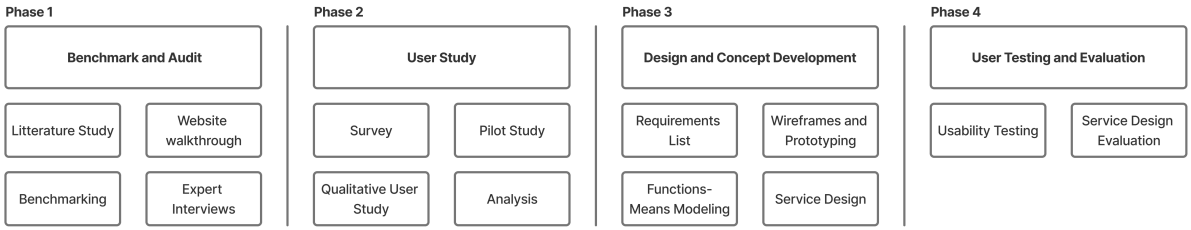


Figure 1: Process overview

5.1 Phase 1 - Benchmark and Audit

The aim of the initial phase of the project was to expand knowledge in multiple areas of the project simultaneously. A literature study was performed to gain better understanding of the theoretical landscape. Simultaneously, the existing complex service system was explored at multiple levels. The partner company's overall SaaS sales process was studied from the customer and salesperson perspective. This was done to put the specific goals of the project - to define guidelines and design solutions for Digital B2B sales of complex software systems - in the context of the complete service offering of the partner company.

A general customer journey was initiated together with a website walkthrough, benchmarking of competitor solutions and expert interviews within the partner company in order to create both a general and specific understanding of the user.

5.1.1 Website Walkthrough

To generate an insight into the current state of the features and design for Hogia's website, which is used to provide information regarding their product offerings, a walkthrough of the website was performed. The walkthrough consisted of first creating a scenario where a potential customer was visiting the website in search of systems to help them manage their

business. During the second step a Hierarchical Task Analysis (HTA) was performed for the fictive scenario to create an overview of the tasks the user had to complete to fulfill their main task of buying a system. The goal with the walkthrough was to highlight the specific tasks associated with navigating the website and more importantly in which order they had to be performed. This resulted in an improved understanding of how a potential online purchasing solution could be implemented in Hogia's website and how the fundamental navigation should be constructed. The results from the HTA can be viewed in Chapter 6.1.

5.1.2 Benchmarking

To gain external inspiration and understand current trends within the area, competitor SaaS sales websites were explored and analyzed. 19 competitor SaaS sales platforms within the business areas of HR systems, Audit and Accounting systems, Business systems, Property management systems and E-signing were selected based on Google searches and input from UX-designers and sales representatives of the partner company.

The purpose of the benchmarking was not to find all existing sales platforms on the market but rather to find inspiration for future solutions and to help understand the current state of the art of SaaS sales platforms across business areas where Hogia competes for market shares. The activity compared digital purchase possibilities, pricing transparency, packaging and the overall information search/buying experience. The result was summarized in a FigJam file.

5.1.3 Expert Interviews

During the initial phase of the project different expert interviews were conducted at Hogia with representatives from the design and sales teams. Each interview lasted about 30 minutes and followed a semi-structured approach since it was difficult to anticipate where the interviews would end up. It was decided that the best approach was to create an interview guide (see Appendix C) that contained the most important questions that had surfaced before the interviews, to be used as a guide. This ensured that questions relevant to the project were discussed while still allowing the experts to speak freely about their knowledge and experience. The reason for conducting these expert interviews was to learn about Hogia's current product offerings and approaches to selling their systems. Additionally, the interviews were used to aid the establishment of the project scope as the experts could provide the necessary input to make a decision regarding which products were suitable for online purchases.

5.2 Phase 2 - User Study

In the second phase, a user study was performed in order to expand the knowledge of the user based on the result of the initial phase. The interview topics ranged from general to specific, investigating general attitudes, behaviors and decision making structures within companies to more specific things such as deciding factors in a SaaS purchase, thoughts on digital SaaS purchase processes and the UX of digital SaaS sales platforms.

5.2.1 Survey

A survey was designed and conducted with two major purposes. First, to get a brief understanding of what users find most important in the digital buying process of systems. Secondly, to find participants for qualitative user studies.

The target sample of the survey was people with system purchase experience in small Swedish companies of 1-50 employees who do not have a tendering process, meaning they could potentially buy something online. Contact information was gathered from online business registers and through personal contacts. The survey was then distributed through social media, email and telephone with the aim of reaching the target group.

The participants answered questions about their system purchasing background, company size and purchased system types. Then, they were asked about the process, their attitudes toward sales-interaction and important factors for digital purchases. The survey used multiple-choice questions for demographics and behaviors. Questions about attitudes and opinions used a five point Likert scale ranging from totally disagree to agree. The full questionnaire is available in Appendix A.

5.2.2 Pilot Study

An initial interview guide/task protocol was developed and tested through an hour long pilot study before proceeding with the qualitative study. The purpose of the pilot study was to asses the interview/observation guide, total length, experience of the participant, how well the questions and the tasks worked. The pilot study yielded important insights which prompted the following improvements: The total number of tasks and the task difficulty was reduced significantly in order to ease the experience of the interviewee. Questions were modified to increase clarity and better capture what was sought to find. Finally, a rating scale was introduced to a set of questions in order to capture a more measurable result.

5.2.3 Qualitative User Study

A multi-method approach, including interviews and observations was used for a total of nine sessions with nine different participants. The participants had varying professional backgrounds but shared prior experience of system purchasing within small Swedish companies of 1-50 employees. The sessions lasted for approximately 45-90 minutes each (see table 1).

The first half of the sessions consisted of a semi-structured interview with three main areas. Demographics, general experiences and specific experiences. In the demographics part, participants were asked about their work role, size of the purchasing company, time since last system purchase and types of purchased systems. In the general part, the participants were asked about their past experience with system purchasing from competitors and in some cases the partner company. What the process looked like and which aspects were most important before completing the purchase. In the specific part, the participants were asked about the decision making process within their companies, their attitude towards digital SaaS purchases, value of personal contact, transparency and specific preferences.

In the second half of the session, the participants were asked to perform tasks to explore the immediate experience, tacit knowledge, habits and unconscious processes. The interfaces used in the tasks also served as mediating tools which created tangible points of reference, enhancing discussions and reflection. The participants were presented with two major tasks and encouraged to "think out loud" while performing them. In the first task, the partner company's website was used as a mediating tool. The participants were encouraged to browse the website in order to research Hogia's business system. During the task, the participant was briefly guided when necessary while concurrently being asked about their experience of the site.

In the second task, the participants were asked to find the price of a SaaS product with respect to some given characteristics about an imaginary company. The same task was performed twice on two different competitor websites, the order was alternated between sessions. They were briefly guided when necessary. Following each task, the participants was asked to rate the experience based on certainty of task completion. After both tasks were performed, they were asked more questions about the experiences, they were also asked to compare the experiences. The combined interview guide and task protocol is available in Appendix B.

Table 1: Summary of Interviews and Participants

Participant ID	**Description**	**Duration (min)**	**Time Since Last Purchase**
Pilot	Head of accounting in a municipality with previous experience of system purchasing.	60	10 years +
P1	CEO of B2B Software company established in 2001 with between 20-30 employees.	48	$<$ 5 years
P2	Co-founder of startup company with seven employees working with app development, established in 2024.	58	$<$ 1 years
P3	Self-employed sole proprietor with accounting business.	45	$<$ 3 years
P4	Small business owner with previous experience of system purchasing. Bought systems as self-employed and with 120 employees.	85	$<$ 1 years
P5	CEO of tech startup established in 2025 with 2-4 employees. Bought systems through accounting firm.	30	$<$ 1 years
P6	Financial consultant with multiple experiences of system implementations for companies including a startup.	65	$<$ 1 years
P7	CEO of innovation startup established in 2025 with two employees.	22	$<$ 1 years
P8	CEO of innovation startup established in 2025 with two employees.	52	$<$ 1 years

5.2.4 Analysis

In this step, findings from the first and second phase were combined and analyzed. First, a KJ-analysis was performed on the data collected from the interviews, which revealed recurring themes and insights. In the first iteration, this led to the realization that more data could be gathered from a certain type of interviewee. Therefore, the data collection was revisited before performing a new iteration of KJ-analysis. In addition to the KJ-analysis, SSA/SSN was used to map the service architecture of the partner company. Further, the general customer journey for the partner company was mapped based on the findings in previous phases.

The analysis of the data that was gathered from the interviews was started and performed concurrently with the interviews themselves. Once the first interviews were completed the task of analyzing the data started. The tool used for analysis was the method of KJ-analysis. Since this method requires preparatory work in terms of highlighting relevant units of data that later would be used during the KJ-analysis, the first step of the analysis was to go through the transcriptions that had been generated from the interviews. All interviews were held on Microsoft Teams and their build-in tool for generating transcriptions was used to facilitate this step of the process. All transcriptions were read through along with listening to the recordings to correct any errors. Once the transcriptions were ready for analysis, they were read through again to highlight units of data that were deemed relevant for the aim and scope of the study. The individual units of highlighted data were then transferred to notes in FigJam.

The KJ-analysis was then performed in FigJam by using the notes created in the previous step. First, each note was read out loud to establish a feel for the content of the data. Then the different notes were divided into different groups based on their content and after a first round of analysis, overall themes based on the users' needs started to emerge. After collecting more data from relevant users based on the findings during the first round of analysis, a second round of KJ-analysis was conducted. The second round followed the same concept as the first one and the new units of data were added to already existing themes strengthening their relevance, or the new data was used to establish new groups or encourage changes to already existing ones.

A portion of the interviews were combined with observations, and the analysis of these observations were performed similarly to the material from the interviews. The video recordings were played back, and relevant data units were written down on notes. These notes were then grouped based on which interview they came from as they were used more as general insights into customer behavior as opposed to conducting another KJ-analysis.

Because the interviews and the following analysis of the collected data had focused on the user's needs in relation to the website. A broader analysis was conducted using a customer journey, Service System Architecture (SSA) and Service System Navigation (SSN) to establish an overview of the current state of the service system and architecture of the partner company. The analysis of the service was done by first mapping out the different touch points where the users would interact with the service from beginning to end. This was done by following the customer journey from need recognition to eventually canceling it.

To understand the partner company's current state of the service offering a SSA was generated. For each touch point, interactions were established between the customer and the different service interfaces. Moreover, relevant parts of the backend support system of the service were identified for each touch point. Putting all the identified pieces of the service system together created an overview of the system in the form of an SSA.

Applying the method of SSN facilitated an understanding of the steps needed to be taken by the customer to find, purchase and cancel the service. Furthermore, after the customer's steps had been mapped out it was possible to connect the user's actions with the actions from the different service interfaces that allowed the user to continue their journey through the service system. Once these connections were in place, the different backend processes that would support both the service interfaces and the customer could be integrated into the SSN.

5.3 Phase 3 - Design and Concept Development

In the third phase, concepts were designed on multiple levels. On a lower level, concepts were designed for specific touch points with functions-means modeling, wireframing and AI-augmented prototyping. Following this, the CVC, SSA and SSN were revisited and re-designed with the purpose of integrating those concepts into the complete service offering of the partner company.

The third phase produced several design concepts aimed at enhancing the user experience in existing touch points or introducing new ones. These concepts were systematically integrated into the partner company's complex service offering.

5.3.1 List of Requirements

After the data from the user studies had been analyzed with the KJ-method, the identified needs and requirements of the user were transformed into metrics which could be

used to validate the final concept at the end of the project. Structuring the needs and requirements of the customer in the form of metrics helped to guide decision making and the development process as it establishes a base line for what the final solutions needs to offer in terms of functionality and design.

Creating the list of requirements began with formulating the metrics by going through the various groups that emerged from the KJ-analysis. Once the metrics started to emerge they were divided into different groups to create an initial structure. In addition to the metrics that emerged from the KJ-analysis, requirements were formulated by reviewing the current laws and regulations that will apply to the developed solution. This was done by searching the internet for laws and regulations that apply to websites and online shopping such as accessibility, purchasing and pricing regulations. Beyond legal and user requirements, both technical and business requirements were specified. Technical requirements were formulated to ensure that the final product can be implemented by the partner company and concerned technical feasibility and the technical aspects of the digital purchasing process. The formulation of business requirements was motivated by the fact that the final solution had to align strategically with the goals and brand identity of the partner company. In addition to the metrics themselves, weighting criteria were added to prioritize the wishes that had been identified along with justification and evaluation method. Moreover, each metric, if possible, received a target value to be used during the validation process.

5.3.2 Function-Means Modeling

One of the first steps after the thematic analysis of the user study was complete was to perform Function-Means modeling to facilitate the generation of different ideas and solutions that could solve the different functions. To start with, a list of functions was created based on the results from the KJ-analysis. The functions were divided into the main function and associated sub functions and were formulated based on function modeling where an input is transformed by a function to an output. Each function that was listed represented an action that the final solution should perform based on the needs and requirements of the user. Once the relevant functions were listed, a function-tree was generated showcasing the relationships between the different functions and the main function. This highlighted the different dependencies between the functions and established a hierarchy, which represented the basics of an online purchasing process. To establish a purchasing process which resembled the one desired by the customer additional more specific sub-subfunctions were synthesized based on the themes from the KJ-analysis.

The function-tree was then used as foundation for the Function-Means modeling as different means to solve each function were generated through brainstorming. Because of the previously generated tree-structure, the Function-Means model could follow the same structure. This facilitated the establishment of different mean levels where each mean was associated with a specific function. The overall aim of performing Function-Means modeling was to create a structure for the initial phase of ideation so that ideas were generated for all important steps and functions of the process of buying SaaS products online. Moreover, formulating the functions served as a tool for translating user insights into wishes and requirements.

5.3.3 Wireframing and Prototyping

After the initial round of ideation through Function-Means modeling and brainstorming, wireframes of the individual webpages needed for an online purchasing process were created in Figma. These wireframes were then used as templates for creating a prototype that later would be evaluated through user testing. Initially many different basic wireframes were created for each page to test various solutions for the functions established during the previous step. The wireframes consisted of basic shapes such as boxes, headers and simple buttons. Creating the wireframes helped to visualize the pages that would be created for the prototype and gave an initial feel for the differences in layout. This facilitated discussions that resulted in decisions regarding how the basic structure of the prototype should be. In addition, creating various pages using wireframes enabled the construction of different purchasing flows as the pages and their functionality were linked in different ways. By using this approach multiple versions of the purchasing process were tested in relatively short time.

The generation of prototypes started with creating design elements in Figma such as components in the form of buttons, images and the structure of functional elements that the user is supposed to interact with. Furthermore, specific sections on certain pages were designed to see how interactive features, such as checking boxes or entering text, should be integrated with usability in mind. To make the prototype and its functionality interactive an integrated AI-tool in Figma, called Figma Make, was used. The interactive prototype was generated by writing detailed prompts (see Appendix F for an example). In addition, design guidelines were established and the previously created components and design files were provided as design instructions. Creating a prototype that was interactive through the whole process of purchasing a system, from searching for information to placing an order, strengthened the validation process as the developed functionality could be tested in the intended environment.

5.3.4 Service Design Development

Complementary to the concept development on touch point level, the complete service offering was also developed on a higher level. This was done through Multilevel Service Design (MSD). The customer journey and CVC was redesigned based on the analysis done in the previous phases. Further, the existing SSA and SSN of the partner company was mapped and then redesigned to enable integration of new concepts within touch points including multiple service interfaces such as website, telephone, and backstage processes.

5.4 Phase 4 - User Testing and Evaluation

To be able to evaluate the holistic customer experience the website prototype needed to be usable for the customers. Therefore, the first step of the evaluation phase was to perform tests to evaluate the usability to gain insights into how the website could be improved. This then allowed focus to shift to a more holistic perspective evaluating the complete customer experience of the proposed service offering. A service prototype was developed and deployed with users. This allowed touchpoint-specific concepts to be evaluated in the context of the complete service experience.

5.4.1 Usability Testing

After the first round of development, usability testing was used to evaluate the usability of the prototype that had been created. The goal was to analyze and evaluate how well the new design and solutions functioned and how easy it was for a user to navigate the online purchasing process for the first time.

The first step in conducting the usability tests was to create a test protocol that would serve as a guide throughout the test to ensure that the most crucial aspects of the prototype were evaluated. This test protocol (see Appendix D) contained a short introduction to the project that was given to the participants along with the specific tasks that should be performed during the test. Most of the tasks that were performed during the test were formulated specifically for this test. However, one task, that was performed during the observation part of the interviews in the user studies, was carried over. Because of this it was possible to see how the added functionality of the prototype performed in comparison to the identified competitors.

During this study, four usability tests were conducted with participants that had no previous experience with this project apart from one. The first user took part in the user study as well. This was deemed to have little or no impact on the outcome of the test as the participant did not have any previous experience in navigating the prototype.

For the test itself the prototype was used as a mediating tool, and the participants were free to navigate the prototype by themselves to complete the tasks. The tasks consisted of completing different aspects of the online purchasing process, where some tasks were specific and short such as finding a specific program or information. Other tasks were vague and more extensive (see Appendix D). For example, one task asks the user to buy a solution that would cover certain needs and cover the whole online purchasing process. Each test lasted around 30 minutes, and they were recorded and transcribed via Microsoft Teams.

The analysis of the tests consisted of watching the video recording and writing down a summary of the insights that were gained and that later could be used to improve the design of the prototype. Furthermore, quantitative measures were used to evaluate each test, and consisted of the number of clicks, errors and interventions for each task along with how long it took to complete each task. All data was compiled into a table (see Appendix E).

5.4.2 Service Design Evaluation

A holistic service prototype was developed and evaluated with six users of varying professional backgrounds, with and without previous system purchase experience in 30 minute sessions. The primary service interface that was evaluated with the service prototype was the Internet interface which was represented by a high-fidelity website prototype in the participants web browser.

The telephone, message and AI-bot interfaces were also represented in the prototype. The telephone interface used the participant's phone and the message interface was incorporated in to the website prototype. If the participant decided to use any of these interfaces a sales representative answered, which was acted by one of the test leaders. The AI-bot was represented with a wizard of OZ technique, meaning it was controlled by a human but the user perceived the answers to be that of a bot. The pilot study, including two participants revealed a AI-bot usage pattern. This allowed the AI-bot interaction to be predicted and answers to certain questions to be prepared with a real AI-bot in advance. If a participant decided to use the AI-chatbot interface, one of the test leaders simply answered with the prepared answers or in case of a unprepared question, ad hoc answers.

In addition to these interfaces, a scenario was developed and presented in combination with tasks to the participants. The intention was to immerse the participants into a realistic SaaS purchasing experience. Normally, a realistic SaaS purchasing process spans

over multiple days, weeks or even months. The scenario aimed to represent this experience as realistically as possible with only 30 minutes at hand.

During the start of each session, the participants were informed about their tools and the aim of the service prototype. Further, the session was structured as an alternating process between presentation of the scenario and periods where the participant actively interpreted and attempted to complete the assigned tasks. The general process of scenario and tasks simulated the service experience of finding and buying SaaS products. The test leaders continuously reminded the participant of information such as number of employees or other important pieces of information given in the scenario. This was done to reduce cognitive load that would not exist in reality. Further, test leaders intervened in case of bugs in the prototype, if they felt like the tasks took to long or were misinterpreted by the participant. Apart from this, the participant had to use the interfaces to receive guidance in the process. The Service prototype guide is available in Appendix G.

Upon completing the scenarios and tasks, participants were administered a questionnaire designed to evaluate the overall experience through an item-scale and open-ended questions. The statements and questions were inspired by the EXQ method to effectively measure the service experience in four dimensions: Product experience, Outcome focus, Moments-of-truth and Peace of mind, the questionnaire is available in Appendix H.

6 User Study, Benchmark and Audit Results

This chapter presents the findings gathered during the initial two phases of the study. It begins with the insights derived from the website walkthrough and benchmarking analysis. Following this, the results of the primary user study are presented, including data from both the survey and the qualitative interviews and observations. Concluding the chapter, these combined insights are synthesized into a list of requirements.

6.1 Website Walkthrough

The website walkthrough was performed on the official Hogia website where information can be found regarding their products and their functionality. To gain further insight into how the customer needs to navigate the current website, and what the current solution offers in terms of online purchases, two customer scenarios were created to facilitate the analysis of the navigation on the website. The steps needed to accomplish the main goal for each scenario were documented using the method of HTA.

The scenarios that were created are quite similar in terms of the user's background and business sector, but they vary in terms of the needs they have for the product they want to purchase. For the first scenario (see Scenario 1) the user is looking for a more specific solution as they want to be able to create financial statements for their company. In the other scenario (see Scenario 2) the customer is looking for a more complete solution that can help them manage all the financial within the company. Establishing this variation helped to analyze the different product offerings as some products are sold more around one main functionality and others are sold as pre-packaged solutions that contain several functionalities.

Scenario 1

A customer that has a real estate business and wants to buy a program to use for book-keeping within their company, and so they have come to the main homepage of Hogia since they have heard that they offer IT-solutions.

Scenario 2

A customer that has a real estate business and wants to buy a program to keep track of and manage the economy within their company, and so they have come to the main homepage of Hogia as they have heard that they offer IT-solutions.

The result from the HTA analysis (see Figure 2 and 3) of the product walkthrough showed that much of the basic navigation on the website is the same for the different

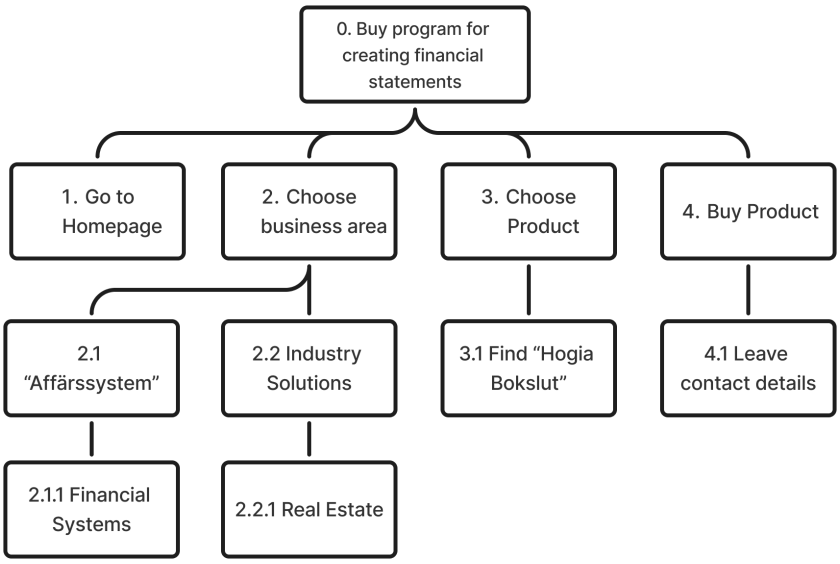


Figure 2: HTA diagram for Scenario 1

product offerings, and they can be found by completing similar steps. The difference lies in choosing between different business or product sectors which then navigates the customer to the specific product they are searching for. This could be done both through going by functionality or industry-specific pages that gather information that are relevant products for the chosen industry. These steps in terms of navigation were the same for both scenarios and it did not matter which of the two paths that were chosen, both brought the user to the same point, which is the third task: Choose product. Here the similarities in navigation continued as the only difference was which product the customer ultimately chose to look at.

It is in the fourth task: Buy product, that the main difference in navigation and tasks occur. On the version of the website that was analyzed during this study, the functionality and layout of the specific products could differ from product to product. For example, the price was only available for a few products, and some products were offered at different price levels and others were not. Moreover, many of the products had none of the above and the only option for the customer was to leave their contact information if they are interested in buying the product.

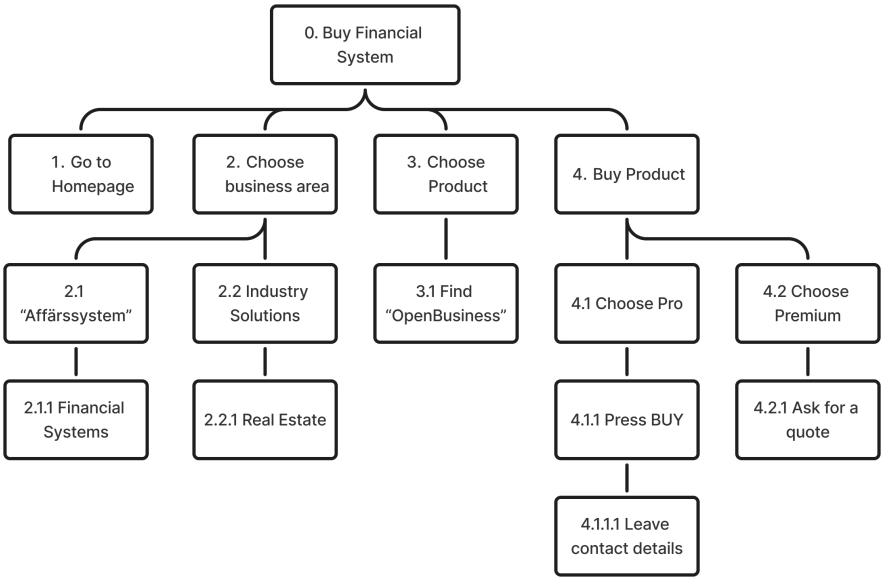


Figure 3: HTA diagram for Scenario 2

This inconsistency between the product pages risks creating confusion for the customer as they might start to expect a certain pattern when buying or searching for a product on the website. It is important to understand how the user is searching and navigating the product pages so that a consistency when it comes to functionality can be created which is also one of Jordan's design principles. Another issue with inconsistency is that it can create frustration for the user as they can easily find the price for one product but not for the other one they are interested in purchasing. Here, they need to wait for a sales representative to come back to them with the information they need and all momentum is lost. As a result, it becomes important that the customer feels that they can find all the necessary information and purchase all the products they need online without any delays or interruptions.

6.2 Benchmarking

The benchmarking result was summarized in a FigJam file where the structure and content of nine different competitor websites were illustrated. An example of how a webpage have been visualized can be seen in 4. After analyzing the websites, the insights were summarized and presented in table 2 which serves as a snapshot of the current state of digital SaaS sales offerings in Swedish firms, focusing on Business products.

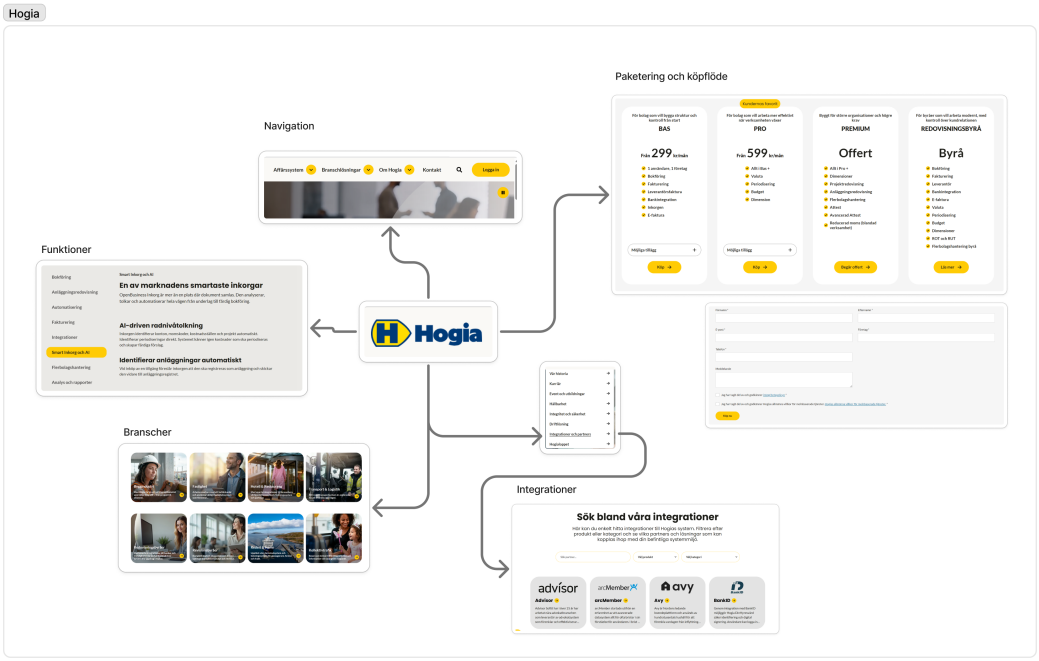


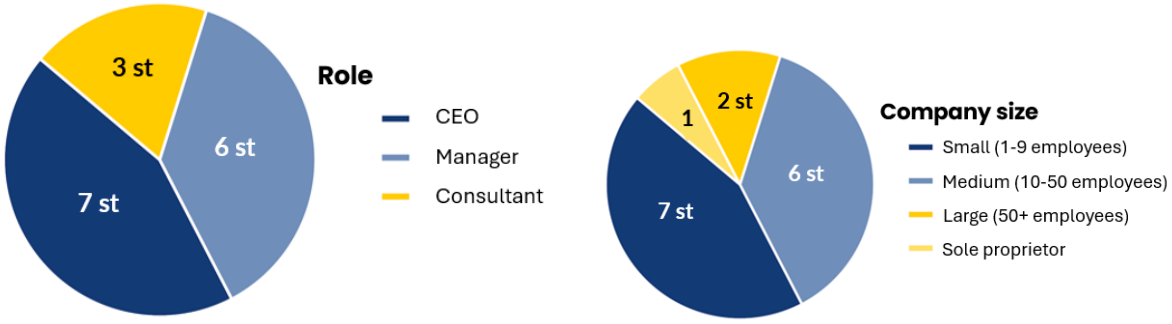
Figure 4: Example of webpage benchmarking result. Source: Hogia.se (2026), captured on [2026-05-19]

Table 2: Benchmarking Summary of B2B Sales Platform Characteristics

Characteristic	Description
Pricing	Pricing is generally vague and only visible for smaller companies. Despite existing price lists, it remains difficult even for small enterprises to determine what the final cost will be. For larger organizations, most platforms require human interaction to determine product pricing.
Packaging	Products are commonly sold in distinct packages or tiers designed to satisfy varying user needs. Providers usually offer three tiers ranging from basic to advanced (e.g., small to large, basic to supreme).
Pricing Strategies	Providers utilize multiple pricing strategies. List prices are often available up to a certain tier, whereas the highest tier pricing is typically omitted. Instead, enterprise tiers rely on value-based, individualized pricing dependent on parameters such as industry, size, and specific customer needs.
Digital Purchases	The capability to make a purchase directly off the website without sales representative interaction varies. Digital purchases are more commonly available for business and e-sign systems, at least for smaller transactions. This possibility is generally linked to lower price tiers and is unavailable for enterprise deals. Only a handful of benchmarked systems offered digital purchases; most still require speaking to a sales representative.
Book a Demo	All providers included in this benchmarking analysis offered the possibility to book a product demonstration or connect with a sales representative.
Free Trial	Allowing prospective buyers to test systems for free prior to purchasing is a common practice across platforms.
Chatbots	Both human-operated and AI-driven chatbots are widely used to answer product questions or route users to sales representatives. AI chatbots generally do not facilitate direct digital purchases.
General Structure	Most sales websites follow a standardized layout consisting of core building blocks: • Comprehensive product information and available integrations • Lists of product features and cross-tier comparisons • Breakdowns of existing modules and product samples/feature showcasing • Satisfied customer testimonials and a distinct emphasis on AI functionality • Clear call-to-actions (e.g., contact information, booking a demo, trying for free, or buying) However, platforms vary greatly in how generously they showcase their products. Consequently, a user's ability to fully understand the product before contacting sales, booking a demo, or initiating a purchase is highly dependent on varying website design strategies.
Buying Guides	Buying guides are rare; only one benchmarked platform featured a proper buying guide to assist users in selecting relevant modules and viewing the total price. This was also the sole platform utilizing a B2C-like "shopping cart" to provide a transparent order overview.

6.3 Survey

The survey had a total of 16 unique respondents in decision making positions such as CEO, manager or consultant (see figure 5a) within Swedish companies in the range of 0 to 50+ employees (see figure 5b). As illustrated in Figure 6, six respondents stated that they researched the system on the website prior to booking a demo or sales meeting and five respondents claimed to have bought the system digitally, without sales representative interaction. Others where either contacted by sales, recommended or developed the system themselves. Multiple answers were allowed.



(a) Distribution of position for survey respondents.

(b) Distribution of company size (employees) for survey respondents.

Figure 5: Description of survey respondents.

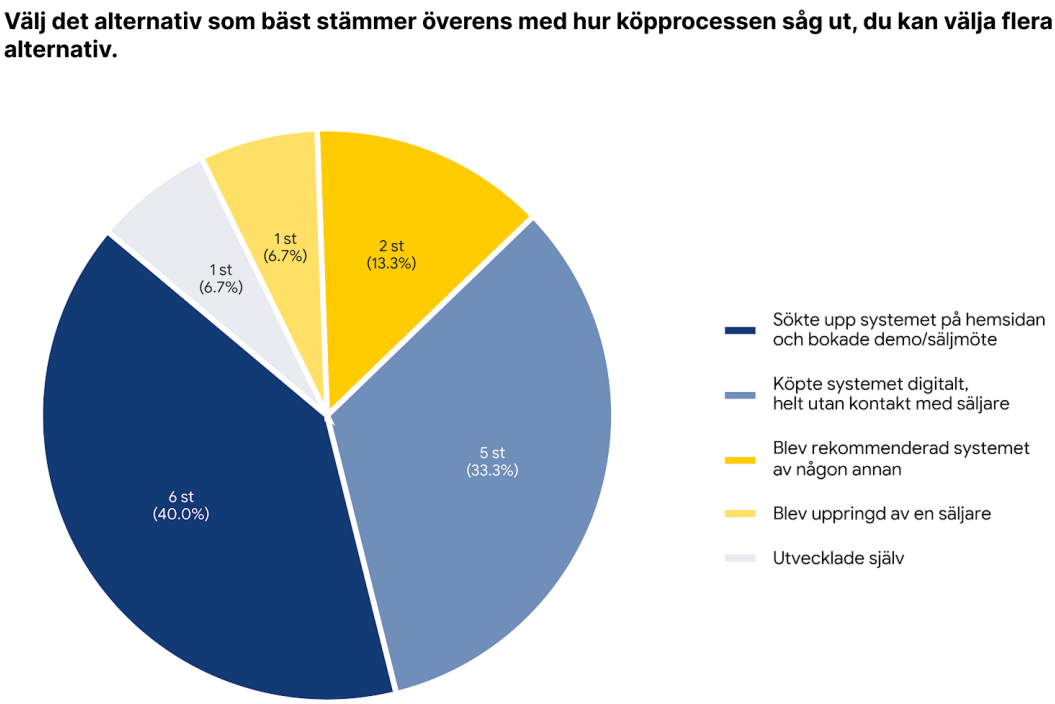


Figure 6: Past experience of system purchasing processes

As illustrated in Figure 7, the respondents attitudes toward sales interactions were highly varied. Regarding the necessity of speaking with a sales representative prior to purchasing a system for a company, the 16 responses were almost evenly split with no neutral opinions recorded. Similarly the opinions on perceived inconvenience of talking to sales representatives were fragmented, showing a range of agreement, disagreement and neutral stances.

As illustrated in Figure 8, there is a strong consensus among the respondents about price transparency and functionality. 100% of the respondents expressed complete agreement with "It should be clear which functionality is included in the system". Similarly, the vast majority either completely or partially agreed to that pricing should be transparent and the importance of the ability to test the system prior to buying it, however there were also neutral stances. In contrast, importance of speed in the purchasing process and receiving system recommendations yielded more fragmented result while still leaning toward agreement.

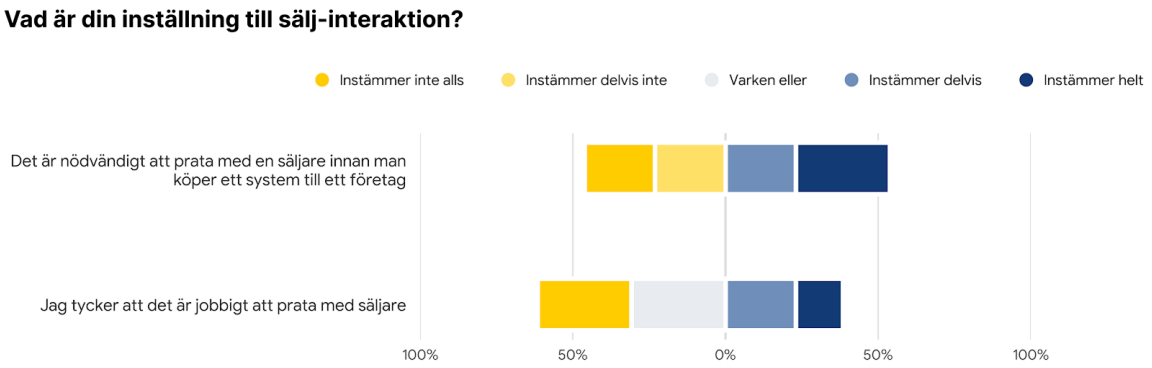


Figure 7: Attitudes towards sales representative interactions in system purchasing

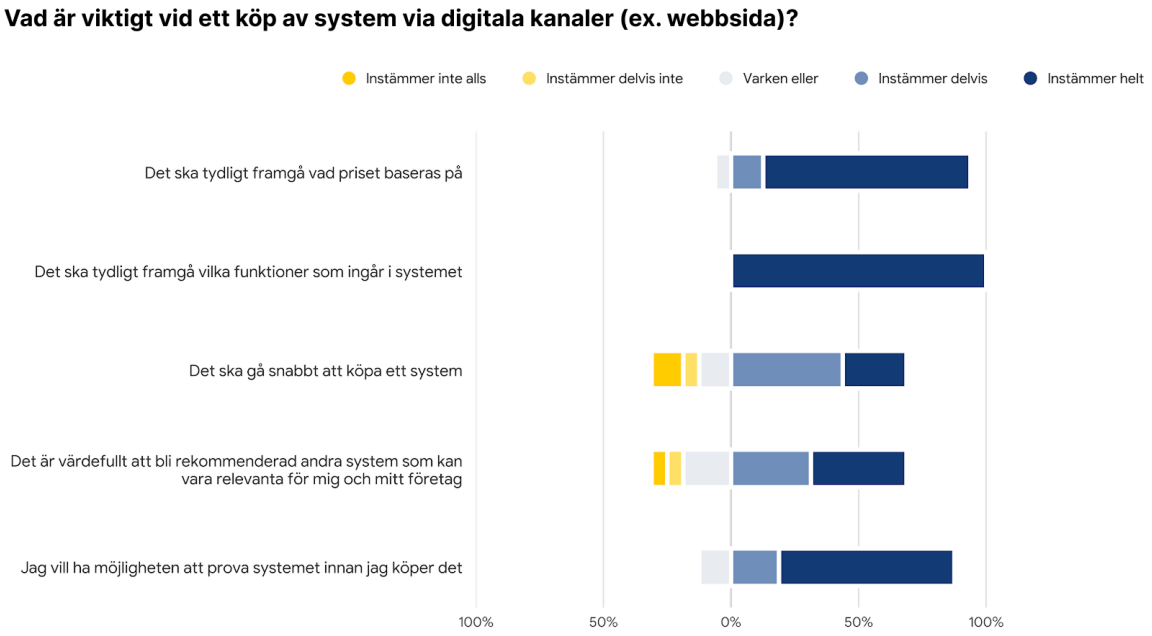


Figure 8: Important factors for buying systems

6.4 Interviews and Observations

The results from the interviews and observations were compiled by conducting a qualitative analysis of the data that has been gathered. Because the structure of the data and the aim of the analysis differed between the KJ-analysis and the qualitative video analysis, the results will be presented separately.

6.4.1 Findings from the KJ-Analysis

The data from the user study were analyzed using the KJ-method and resulted in 8 different themes and their associated groups (see Figure 9) which contain the insights that were highlighted from the interviews. The results from the KJ-analysis will be presented theme by theme where the findings from each theme will be presented by describing the insights from the associated subgroups.

Figure 9: Overview of the results from the KJ-analysis

Search Process

The findings regarding the process were mostly associated with how the user searches, decides and purchases a product, along with the needs and expectations that the user had on the process of purchasing a SaaS solution online. Regarding the search process most respondents explained that they usually begin their research by using some type of search engine to find viable candidates that offer the solutions they are looking to purchase. However, when asked how they would do their research if they needed to do it today, many answered that they would use AI to assist them rather the searching for the initial information manually. For example, one participant said: "I would absolutely have used more AI and asked for a comparison". It is along this way that many other respondents answered, mainly that they would let an AI do the initial information search and come back to them with a comparison between different product offerings.

Even though most respondents argued that they find viable candidates through different search engines and additional information by visit the website, it was not the only answer that was given. For example, a respondent mentioned that they emailed and asked the company about additional information instead. Additionally, a respondent pointed out that recommendations from trusted sources such as colleagues was used to find relevant system providers and said: "It was mostly based on recommendations, that people we work with have used them before".

Decision-making Process

After the initial search was completed, most participants explained that the next step was to visit the website and search for information regarding functionality and price, which was identified to be the first thing most respondents do when they arrive at the website. A need for quick and easy access to information regarding the content of a product was voiced since this was a crucial aspect for when the customers compare the different candidates. To support the process of comparing offers information regarding functionality and price needs to have high priority on the webpage.

The next step of the process, as explained by the users, was to decide which solutions they wanted to purchase and this was most often based on convenience, but personal recommendations can play a significant role. Moreover, the final decision was often made by one or two people who usually have a higher position within the company. When the users were asked about how they make their decision the majority answered that they tend to go by convenience. For example, many participants talked about the locked-in effect where they would first see if their current system provider (if they have one) offers the functionality they are after. If so, they tend to choose this option as it is easy and they are already familiar with the provider. Participants explained that it at times is not worth the extra effort it takes to become familiar with a new provider even if it comes at a lower price. Another aspect that weighs heavy on the decision making is whether the customer has a personal connection to the system provider. For example, if they had received recommendations from someone they know, the customer expressed a higher level of trust. In addition, most of the respondents were representatives of smaller companies (between 1-10 employees) and so the final decision was most often taken by the CEO of the company. Either in by themselves or in unison with an employee who will use the system.

Purchasing Process

When it comes to the actual process of purchasing a solution the opinions and previous experience of the participants varied more compared to the other steps in the process. Here, it was a clear distinction in the answers as some were positive about making a purchase online and had done so before, and where some were quick to say that they would simply pick up the phone and call the company instead. It was difficult to pinpoint where this distinction came from could be linked to the age of the respondent but also be based on personnel preference. One thing that became clear though was that when a larger company (50 employees and above) wants to purchase a solution they usually want to speak with a sales representative.

Otherwise, for those who felt comfortable with online purchasing, the process often began with comparing the final offering and price between products and package solutions to find the most suitable option. When completed, the next step was to see if a free trial was available, as this was highly appreciated among the participants since it gives them a change to try the system first. After that the user tends to locate the payment details and here the majority said that it was important to have options. The customer does not want to be forced into a yearlong agreement without trying the product first. Here, different suggestions were made regarding how such a trial could look like. One suggestion was to offer monthly payments, so the customer can test the product for a month and then decide if they want to prolong the contract. Furthermore, the aspect of time was important during the purchasing process as many participants expressed that they did not have much time nor did they want to spend much time purchasing these products once a decision had been made. The process of buying a system is seen as a temporary extra task that is not normally included in their work.

Furthermore, the participants expressed opinions regarding how they want the process to be once the first purchase has been made. To increase the likelihood of purchasing a solution online many respondents said that they want to be sure that they could add functionality after the initial purchase if they missed something. As one user put it: "Exactly, that I can remove and add functionality without problems". In addition, this flexibility was also important as participants want to be able to change the terms and functionality of the products as the company grows.

Website

The key findings regarding the website focused on the structure and navigation of the website as well as what content the customer is looking for on the different pages. In terms of structure participants expressed that they want to find information about product content at the top of the page. They disliked being greeted with large images and long or large sections of text as this led to more time spent on scrolling down the page. For instance, a participant said: "I think it is too much unnecessary text. This takes to far too much energy". Scrolling was another thing that many respondents disliked since it made the information feel fragmented which made it difficult to connect the different parts of information. A solution that was positively received by respondents and that helped to reduce the fragmentation of information was having pages that were dedicated to different industry sectors.

For the navigation many respondents wanted the website to be better suited to the process of purchasing with clear paths from finding products to purchasing them. When entering the homepage users want to be guided on how and where to buy the products. A suggestion that came up was to have a tab or button directly accessible on the homepage that allowed the customer to start the process of purchasing a product without having to spend time searching for the next step to take. Another aspect of navigation that was mentioned was that it can be beneficial to have submenus that gathered associated links and pages, but the submenus should not consist of too many levels. Furthermore, after a product or package has been selected the users reacted positively if they were directed to a page where they could make changes to the selected items and see how the price changes.

When asked about specific website content the answers where quite similar to what information a customer needs during the purchase, such as information regarding the price and functionality which is used to compare offers. However, there were aspects that had not been mentioned before. A user expressed that they want easy access to contact information throughout the purchasing process so that when questions arise, they do not need to spend time searching for the aforementioned information. Moreover, product integrations was an important aspect because this allows the customer to judge how well the new system can be integrated into their current situation. For example, arguments were made for having a dedicated page that explained the integration options in more detail. In addition, it was still important that the user could find information regarding relevant integration along with the product information. To facilitate a deeper understanding regarding product content and functionality the addition of products demonstrations was suggested by more than one respondent. One suggested that video demonstrations could be added to the website.

Personal Contact

An interesting theme that emerged during the study was the theme of personal contact. The goal of the project was to investigate and simulate a fully digital purchasing process, however, respondents suggested that they still wanted to have access to some form of personal interaction as it could inspire more trust when purchasing a product online. For example, it was said that a customer can do much themselves, but they would trust the process more if someone could help to make sure that their needs are covered. Additionally, respondents argued that having a personal interaction made them feel seen and understood by the system provider instead of being just under customer.

The need for personal contact was most important when purchasing products for a larger sum of money or for a larger company that has specific requirements that need to be met. As mentioned before, when participants were asked how they wanted their personal interaction to be, many answered over the phone. However, having a human available over chat could also be enough, as a first step.

Transparency

Transparency was a theme that came up many times during the interviews and the respondents said that when they buy a product, they want to have full transparency when it comes to the price and functionality. They want to know what they are going to pay in the end, and they strongly dislike when costs are added at the end or after the purchase. Another aspect is that the customer does not want to feel like they got tricked into buying more than they need. Before deciding on making a purchase online, it needs to be clear where the cost comes from and why the product is relevant to the customer.

Trust

While discussing an online purchasing experience the theme of trust emerged since it becomes important to the customer that they can trust the process if they are going to complete it by themselves. Aspects that came up during these discussions were that a company's reputation can play a role in how trustworthy the experience appears to be. However, respondents argued that if they know what they are purchasing the importance of reputation decreases. One aspect, which has been mentioned before, that respondents tend to value highly is the experience from previous and current users. The important thing here is that the information comes directly from the source and not as a quote on the website, as respondents said that they tend to mistrust these.

The following themes that are presented are highly relevant to consider when developing an online purchasing experience but were mostly outside the scope of this project. However, the insights that were gained still contributed to the development of the prototype and as inspiration for design guidelines.

Price

One aspect that was crucial to almost all participants was the price. Many of the respondents were representatives of a small company and explained that they did not have much money to spare on SaaS solutions. Nevertheless, smaller companies are those who throughout the study showed the most interest in purchasing SaaS solutions digitally, and they all need such solutions. In some cases, the price seemed to outweigh the user friendliness of the product. For example, one participant said: "Yes, because we were so

small then, it was 99.9 % the price that decided, no question". Because this project focused on establishing good user experience throughout the purchasing process, the price of products was outside the scope, but it is important to keep in mind when attracting these types of customers.

Packaging

Packaging was a subject where the opinions of the participants went somewhat apart. Some had a more positive attitude towards packages, and some were more against them. The participants were significantly more positive about product packages when they were presented as packages for a specific industry such as real estate and accounting firms. Otherwise, the majority argued that having product packages made them feel forced to buy more than they need. One aspect that made packages more appealing was whether the users themselves could change and configure the packages to suit their needs. Here, the packages served could serve as a guide rather than a finished solution. Moreover, participants expressed an interest in configuring their own packages from scratch since their type of company can have specific needs.

Content

Previously, opinions regarding the content on the website have been presented and so the theme labeled content focused on the expectations and wishes the customer had on the product themselves. Here, the participants, for example, expressed that it was important that a product had seamless integration with other systems, in particular integrations to their bank. Furthermore, expectations regarding addition of functionality based on customer feedback and the ability to build their own integrations were raised.

6.4.2 Qualitative Video Analysis

User behavior was analyzed using qualitative video analysis and focused mostly on gaining general insights into the typical behavior of a user. As such, the results were compiled by grouping the insights by the respected interview they came from (see Figure 10).

Figure 10: Results from the qualitative video analysis

The order in which the information is presented was an aspect that stood out while studying user behavior. When the participants were trying to buy products, it became apparent that they wanted to be assisted and find helpful information directly on the page they are currently on. If they need to stop their process and search for information elsewhere, the user many times ignores this and tries to figure it out themselves which could create a sense of frustration for the customer. The customer wants to feel like they are taken care of throughout the process.

Another interesting observation was that a few participants looked closely at the screen during certain steps of the tasks which showcased problems with the readability of the text that was written on the page. This often occurred when the customer was presented with too much information at ones or if the design of the website wanted to mitigate the need for scrolling. It became clear that there is a need to ensure that a certain level of readability is kept throughout the whole process.

Furthermore, it became clear that the use of color was effective in steering where the user first looks and chooses to interact with the webpage. Applying a color that significantly stands out in contrast to the rest of the colors on the page effectively draws the attention of the user, and if used appropriately the user can see it as a supportive mechanism to speed up the process. Moreover, users showed on repeated occasions that they would mostly move across the first three sections of the page. This meant that they would miss additional information on the page and sometime go as far as assuming that certain information is missing.

6.5 List of Requirements

After the analysis of the user studies had been completed the needs and requirements found were synthesized into metrics that could be used to evaluate the final design. All metrics were compiled into a list of requirements (see Appendix I), and an extract of this list can be seen in Table 3.

Table 3: Requirements List (Sections 1.1 & 1.2)

Nr	Criteria / Function	R/W	W.	Justification	Evaluation Method	Target	Level
1. User							
1.1	**Sincere and transparent purchase process**			*User Experience: the solution should clearly indicate status, price, and content.*			
1.1.1	The software should clearly communicate the total price	R	–	Price awareness, honest business	UAT, Likert scale	$\geq 4/5$	Webpage
1.1.2	The software should clearly communicate the price components	R	–	Price awareness, honest business	UAT, Likert scale	$\geq 4/5$	Webpage
1.1.3	The software should clearly communicate potential future changes in price	R	–	Price awareness, honest business	UAT, Likert scale	$\geq 4/5$	Webpage
1.1.4	The software should clearly communicate the contents of the product(s) to be purchased	R	–	To ensure the user is aware of what they are buying	UAT, Likert scale	$\geq 4/5$	Webpage
1.2	**Efficient purchase process**			*User Experience: to match existing competing solutions' time efficiency.*			
1.2.1	Minimum required clicks to reach checkout	W	3	Matching the most efficient competitor	Test	3 clicks	Webpage
1.2.2	Minimum required time to complete purchase	W	3	Matching the most efficient competitor	Test	5 min.	Webpage

The final requirements list consisted mostly of metrics that were linked to specific user needs and requirements that had been identified, but it also contained metrics associated with legal, technical and business requirements. This was done to ensure that the final design aligned with the partner company's identity and would fulfill the laws and regulations for publishing a website.

In the end the requirements list consisted of four categories and their associated subcategories. The four main categories were *user, legal, technical,* and *business*. The metrics for the user were then divided into six subcategories:

1. **Sincere and transparent purchasing process:** This focuses on conveying pricing and product information in such a way that the customer can understand what they are purchasing and how much it will cost. Without the proper level of transparency, the customer can become suspicious or uncertain about what they are purchasing, which can lead to the cancellation of the purchasing process and the loss of a customer.

2. **Efficient purchase process:** Prevents the process from becoming too long and complex as users expressed the need for the process to be rather quick. The reason being that when a customer knows what they want they do not want to be stuck answering questions or filling out long forms. The metrics in this subcategory were chosen to be wishes instead of requirements as a slow process will not hinder the customer from purchasing a product, but it can be a source of frustration.

3. **Appropriate UX and UI:** Focuses on the fundamental aspects of the website regarding navigation and how information should be displayed.

4. **Flexible purchase and offer:** From the user studies it became clear that a certain level of flexibility should be included in both the price and product offerings to better suit a variation in customers.

5. **Support decision making:** Finding and choosing the right solution is something that is important to the customer as they do not want to end up buying more than they need. To assist the customer in this process it is crucial to develop ways to compare different products and plans.

6. **Communicate understanding and safety:** Purchasing a product or service online without personal contact can be found intimidating especially when it involves complex systems and a significant amount of money. To lower the threshold for buying a system online it becomes important to show the customer that their specific

needs are being taken care of and that the process is safe.

The legal metrics focused mostly on ensuring that the final product will obey by the laws and regulations that have been formulated by the EU and Swedish government. Because the metrics stem from legal requirements there is no room for discussion in terms of relevance since the product needs to fulfill the legal requirements to be used and published. From the perspective of the EU the solution must be compliant with the current regulations in terms of accessibility and data protection. From the national perspective the purchasing process is governed by the laws regarding consumers and e-commerce.

Both the technical and business metrics were dictated by the scope and aim of the project because the final product needs to align strategically with the partner company and fulfill the aim of the project. As such the technical metrics focused on achieving an appropriate level of technical feasibility so that the product could be integrated within the technical environment of the company. In addition, the purchasing process needed to be fully digital to meet the project's aim. Furthermore, the business metrics were formulated to ensure that final solution could be incorporated into the brand identity of the partner company.

7 Concept Development and Evaluation Results

This chapter presents the outcomes of the concept development and evaluation phases. It begins by presenting the resulting diagrams of the Function-Means modeling. Following this, the iterative design progression is showcased, presenting the evolution from wireframes to first functional prototype.

7.1 Function-Means Modeling

The resulting function tree for the main function: "enable purchase online" is illustrated in Figure 11. Note that sub and sub-sub functions are not structured in any particular order but the sub-sub functions responds to the sub functions directly above them. Support functions and Semantic functions are also included.

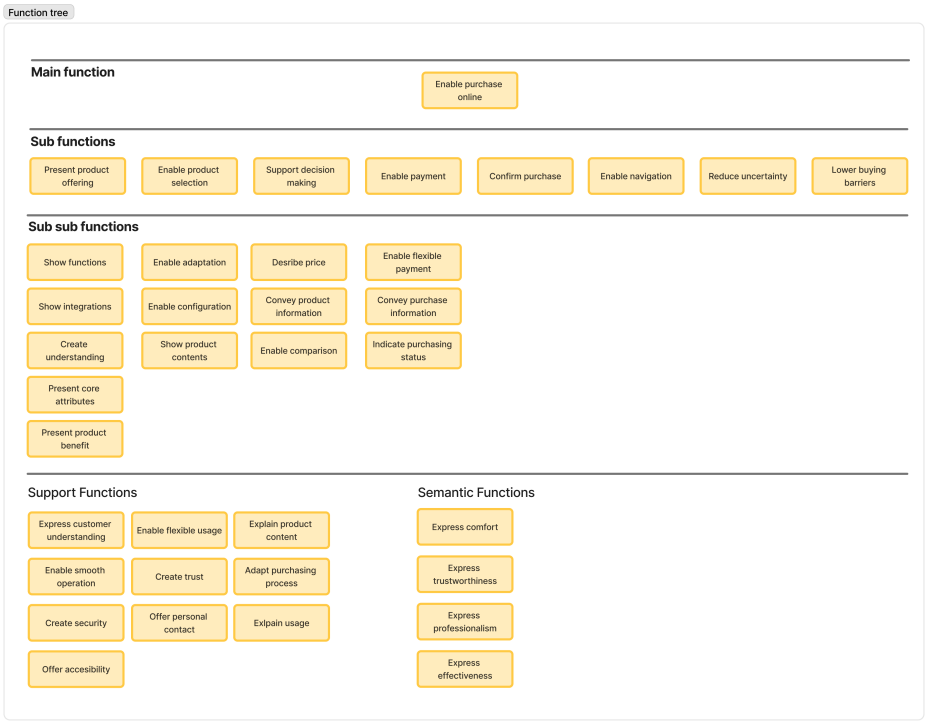


Figure 11: Function tree

The framework developed through the function-means modeling activity is structured hierarchically to realize the primary function: *Enable purchase online*. The main function is allocated to the website which branches to nine different sub-functions required to fulfill the main function: *present product offering, enable product selection, support decision making, enable payment, confirm purchase, enable navigation, reduce uncertainty and lower buying barriers*. These functions corresponds to the sub functions visualized in the function-means tree. For an extract, see Figure 12. Each sub-function has its

corresponding means, and in some cases a third level of sub-sub functions. The functions are represented by yellow hexagons and their respective means are represented by blue quadrilaterals. The model maps out the potential solutions down to the lowest level of concrete implementations, e.g. conversational interfaces, information delivery and configuration parameters. For the complete model see Appendix J.

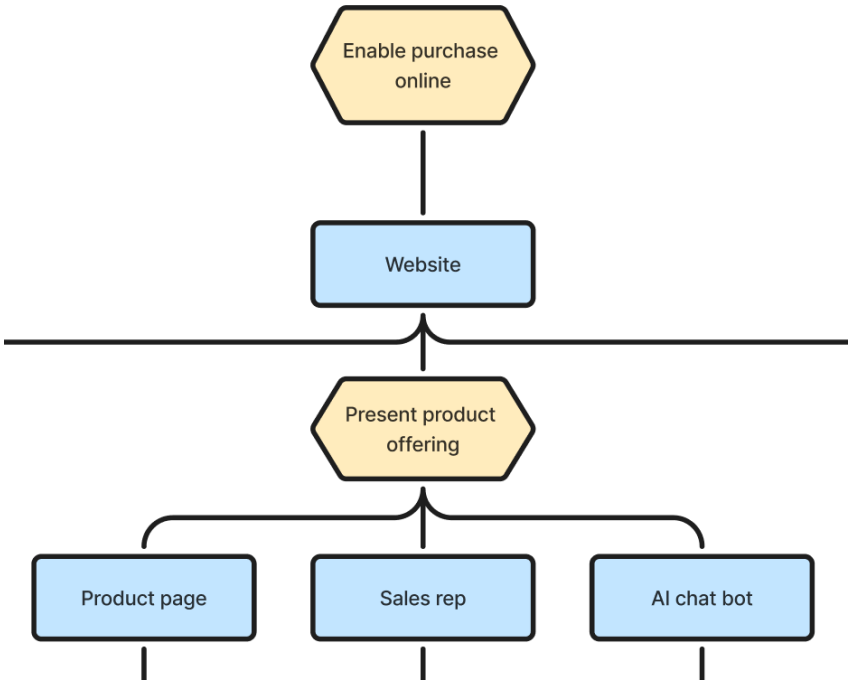


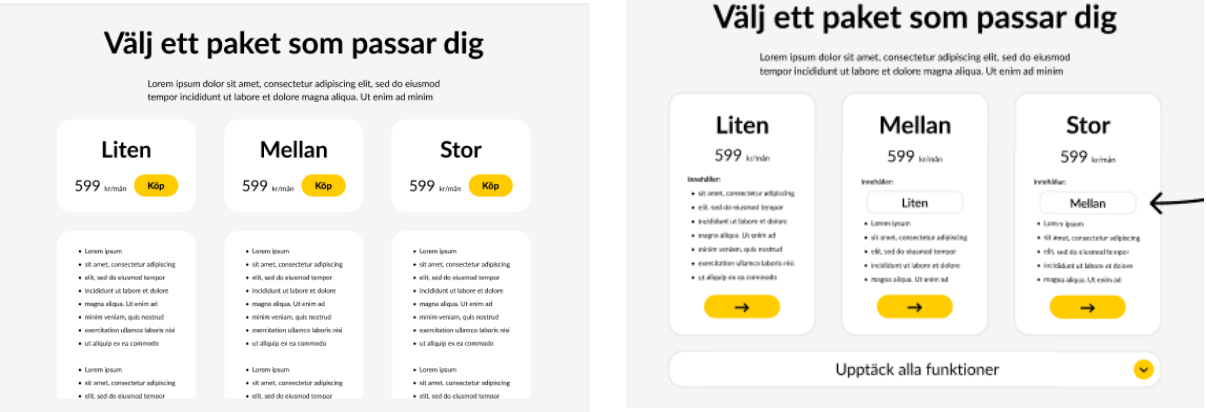
Figure 12: Extract from Function-Means modeling

7.2 Wireframes

After functions-means modeling had been performed the ideation process continued by brainstorming different ideas and solutions by generating wireframes in Figma. The most relevant results from this process will be presented below and will concentrate on highlighting ideas and solutions for different areas of the online purchasing process.

7.2.1 Product Packages

Product packages or packages overall can become confusing for customers due to a lack of understanding regarding what the different packages offer and what the difference is between them. Additionally, to quickly become aware of the functionality that a product or package offers was important to the user since it shortened the time it took to find information and reduced the need for personal contact. In Figure 13 two different ways to display functionality have been implemented, both with the goal of reducing the need for scrolling down the page.



(a) Showing product functions separately

(b) Showing product functions in product card.

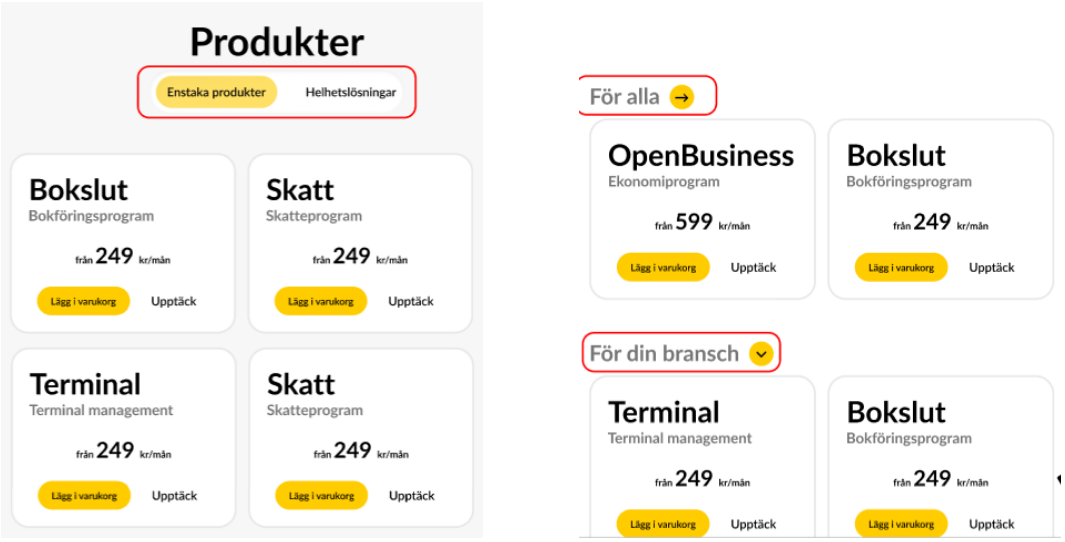
Figure 13: Examples of product packages.

The first example (see Figure 13a) shows the solutions of adding the functions on a separate card where the user can scroll down through the function, but the scrolling motion is kept within the card itself. In addition, having the scrolling motion within the card always keeps the different offers and their price visible to the customer.

In the second example (see Figure 13b), a tab was added beneath the packages to reduce the height of the section, as more functions are shown on demand when the user asks for it. Moreover, there is also a direct link placed within each package that takes the user to a separate page where they can find more information.

7.2.2 Product Pages

Wireframes created for the products pages (see Figure 14) focused primarily on investigating different ways of organizing the different products and how this can be presented to the user. One example was to let the customer sort the products by different industry sectors as offers for specific industries were positively received by the customer (see Figure 14a). Another example that was generated consisted of two separate views where one shows all products at once and the other shows already established solutions (see Figure 14b). The established solutions were aimed at being a complete package created based on recurring customer needs



(a) A button to switch between views (b) Sorting product by industry

Figure 14: Examples of product pages

7.2.3 Shopping Cart

Based on the insights from the user study regarding customization and price transparency solutions for the shopping cart was generated (for example see Figure 15). The shopping cart was chosen as a tool where the customer could receive an overview of their choices and see how the price changes based on the changes they make within the shopping cart. To allow the customer to oversee the process of adding changes to their solution a progress bar was added (see Figure 15) to show the user where they are right now, how many steps they have left, and it allows the user to jump between different steps seamlessly.

Furthermore, the price is clearly visible in the bottom right corner (see Figure 15) and remains in the same place throughout the whole shopping cart process. The price also continuously updates when changes are made to any of the products in the cart so that the customer can see how changes will affect their final price. Additionally, more specific product pricing information is presented in the upper right corner, which allows the customer to see how the price of certain products changes. This also allows them to see how the different product contributes to the final price that they will pay.

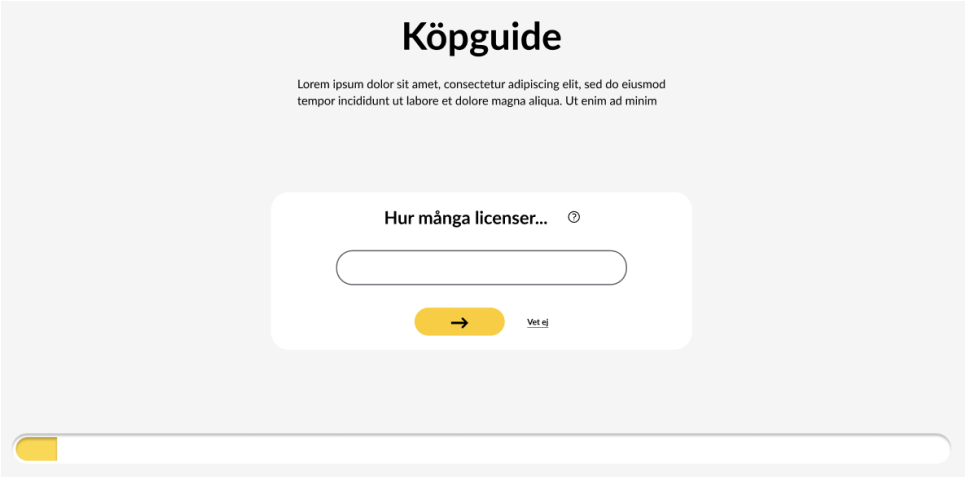
Figure 15: Example of layout in the shopping cart

7.2.4 Guide for Purchasing

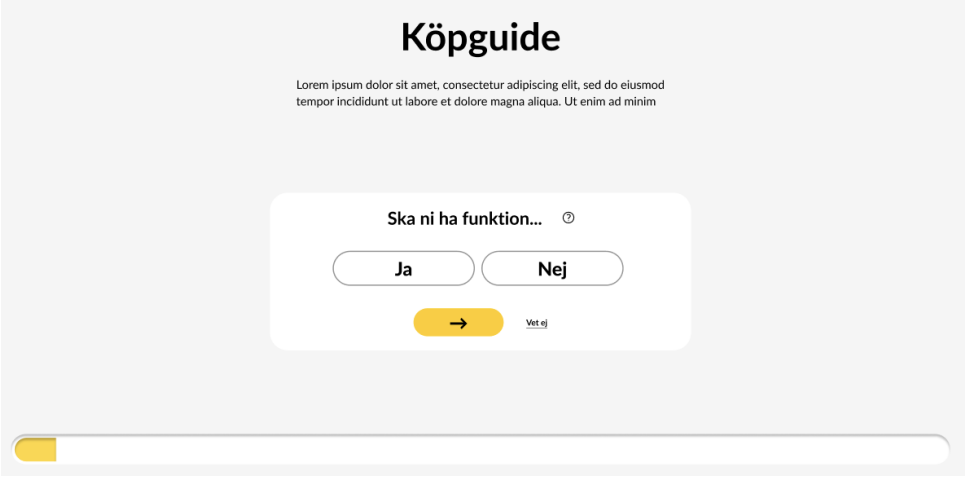
During the user studies difficulties sometimes arose when the customer needed to decide what type of product and systems they needed, especially for the participants who represented first-time buyers or representatives of smaller companies (1-10 employees). In addition, participants responded positively to features that would guide or assist them during the decision-making process. To find ways to assist user different ideas for guides were created using wireframes.

A purchasing guide was one of these ideas during this part of the ideation phase. The idea was to ask the customer to answer questions and make choices regarding their needs and requirements which then could be used to automatically generate a personalized offer for them (see Figures 16 and 17). This offer could then be directly added to the shopping cart, and the customer would be able to complete their purchase. Moreover, a progress bar was added to the bottom of the guide so that the user could follow their progress and see how many steps are left.

Figure 16: Card for presenting the purchasing guide



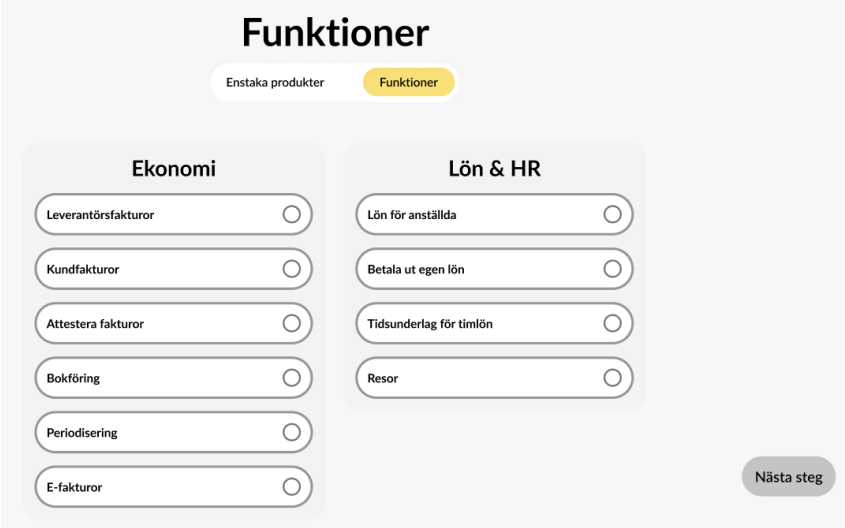
(a) Example showcasing a question in the purchasing guide



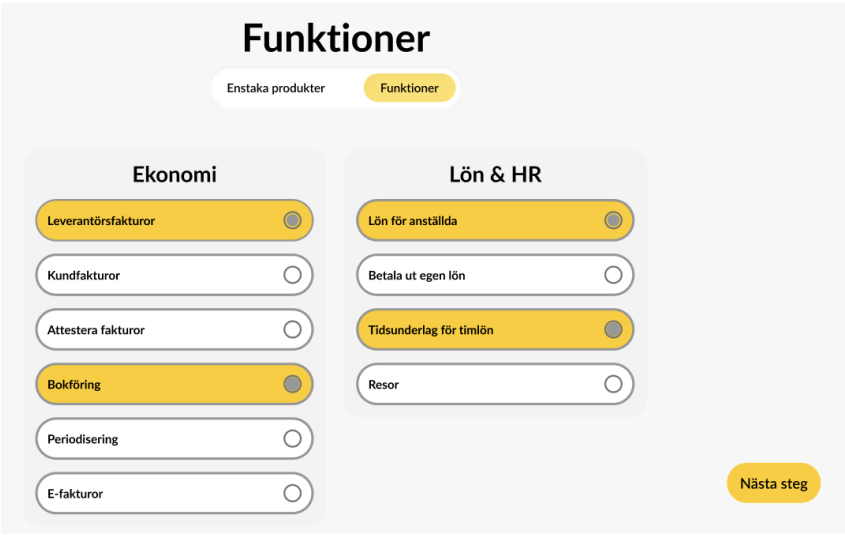
(b) Example showcasing a choice in the purchasing guide

Figure 17: Examples of the steps taken during the purchasing guide

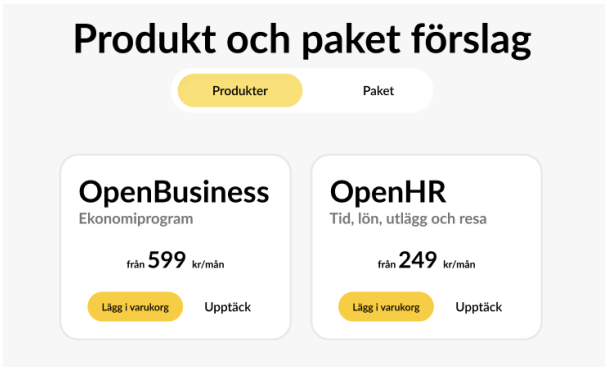
Another idea for assisting the customer was to let the customer choose products by functionality (see Figure 18). To guide them through this process different business areas such as accounting, salary and HR, were presented on the page. Now the customer would be able to choose which areas are relevant for them. When an area has been chosen the customer can click on it which reveals a drop-down menu that lists the functionalities within the chosen area. After choosing the functionality needed the customer would be presented with recommended product that they can add to the shopping cart.



(a) Available functionality



(b) Chosen functionality



(c) Product recommendations

Figure 18: Guidance by choosing functionality

7.3 First Prototype

To further refine and increase the fidelity of the ideas that had been generated using wireframes a first prototype was created. The prototype was a representation of how a website could be structured and designed to enable and facilitate customers to purchase products online. Thereby the website would serve as the interface the customer uses to find information, compare offers and ultimately purchase their chosen products. As such the website should accommodate multiple steps of the purchasing process without creating inherent conflicts of interest. This resulted in a prototype that both aims at clearly presenting useful information to the customer while enabling a seamless purchasing experience.

On the homepage, that is shown in Figure 19, the focus was put on showing the customer from the beginning that it is possible to purchase products directly from the website by creating a separate tab for this in the top bar. Additionally, a tab was added that led the customer directly to all products that are available and where information could be found for each product. Moreover, the second section was used to display the most usable shortcuts along with introductions to the different guides that can be used to assist the decision-making process. The reason behind this was that the second section becomes visible to the user almost immediately when arriving at the homepage which therefore makes it harder to miss.

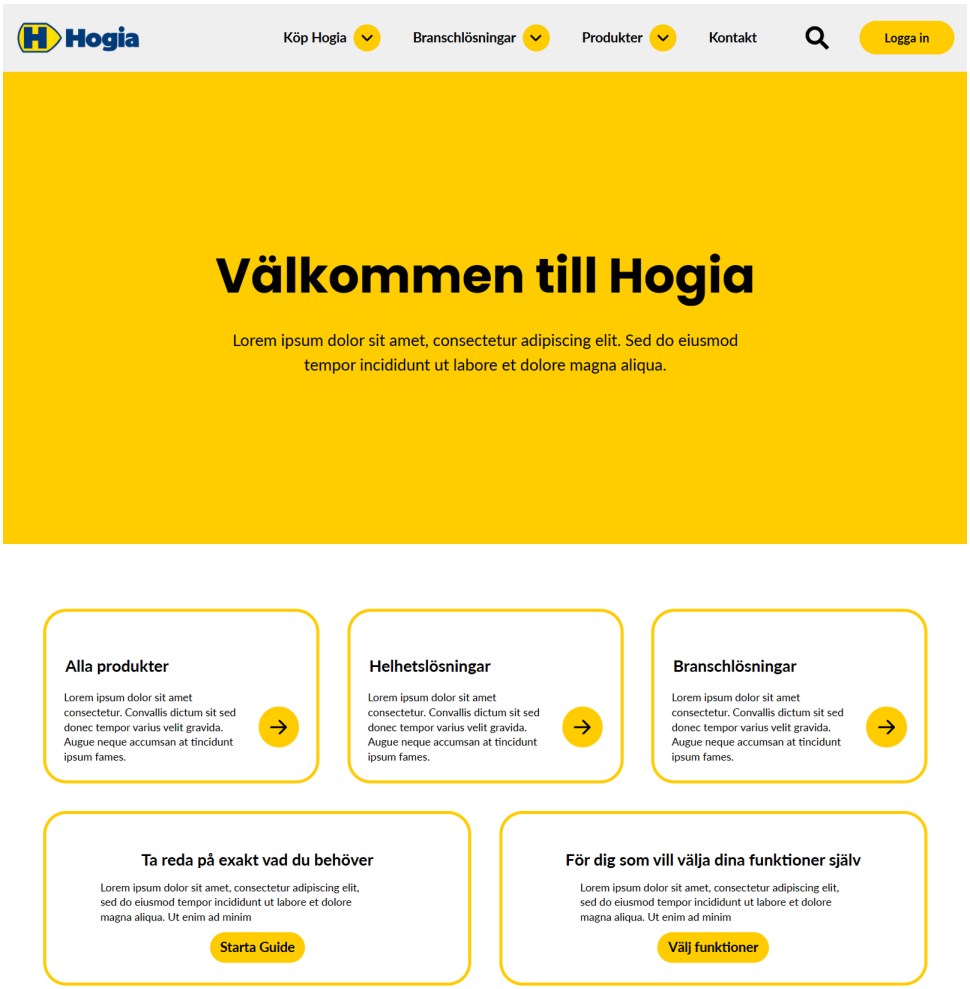


Figure 19: Extract from homepage

7.3.1 Product Pages

The product pages needed to show all products that are available and more detailed information about each product. Therefore, a combined product page along with product specific pages. The combined product page was used to show all products that can be bought while organizing them by different categories and industry sectors (see Figure 20). The classification of the products serves as a filter function that can be used by the customer to narrow down their search and to highlight relevant products. To increase the guessability the categories that were created were based on functionality and purpose. Examples of categories are *Accounting, HR & Salary* and *Financial Statements*. In addition, each product card received a subheader that explained the purpose of the product to facilitate an improved understanding for the user since the product names themselves were proven to sometimes be confusing.

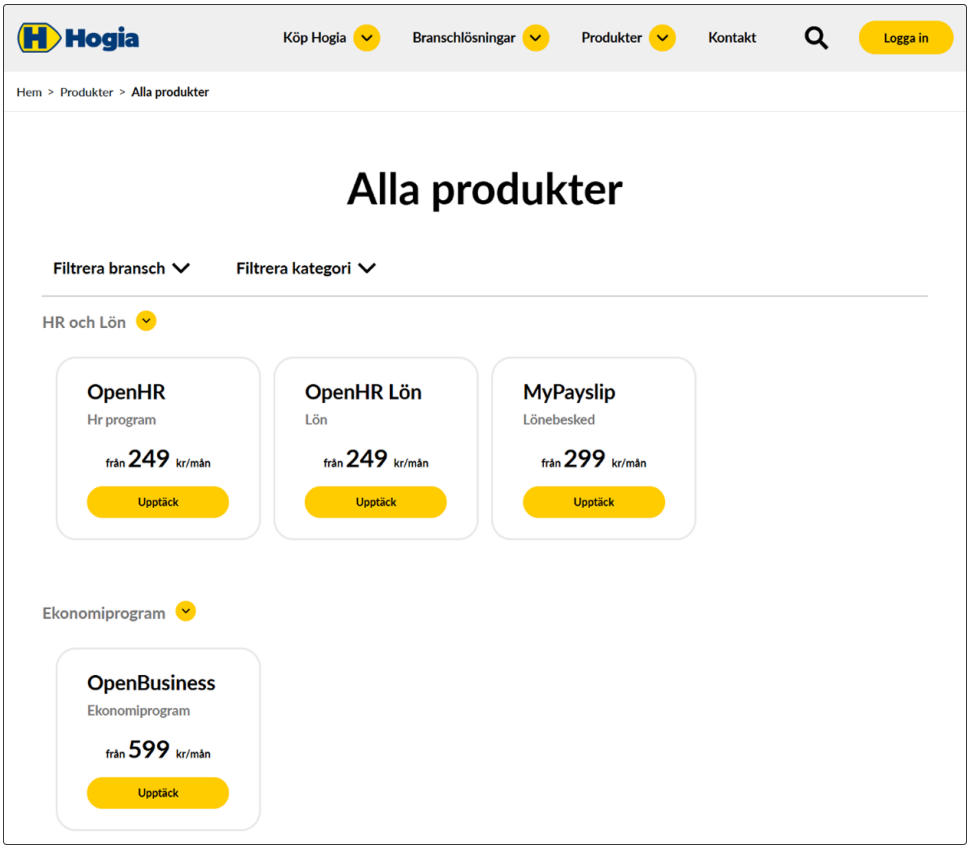
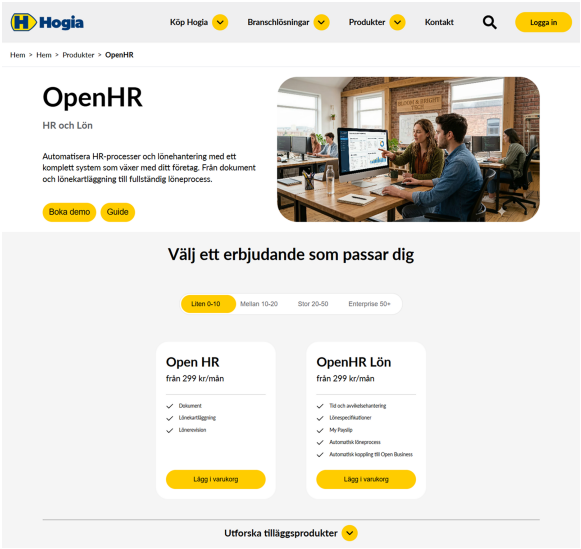


Figure 20: A section of the products page

Detailed product information and specifications were presented on product specific pages to allow the customer to dive into the details of each product and see the differences between different offers (see Figure 21). This was done by creating cards for the different offers and displaying them side by side on the second section of the page and was kept as consistent as possible between the various product pages. When inconsistencies arose it was most often linked to individual product specifications. For example, for HR & Salary the price changes based on the number of employees and to keep the price updated a choice for this was added directly on the page (see Figure 21b).

General information that explains the purpose of the product was placed in the first section to give the customer a short introduction to the product (see Figure 21). I addition, the first section contained a shortcut to the purchasing guide to keep it easily accessible if questions arise. Furthermore, information about additional modules or product extensions was placed beneath the product cards to reduce the information load as the user accesses the page. During the user study it became apparent that customers dislike too much information at once. Hiding information under a tab allows the user to decide how much information they want to see.

(a) A section of the product page for accounting system

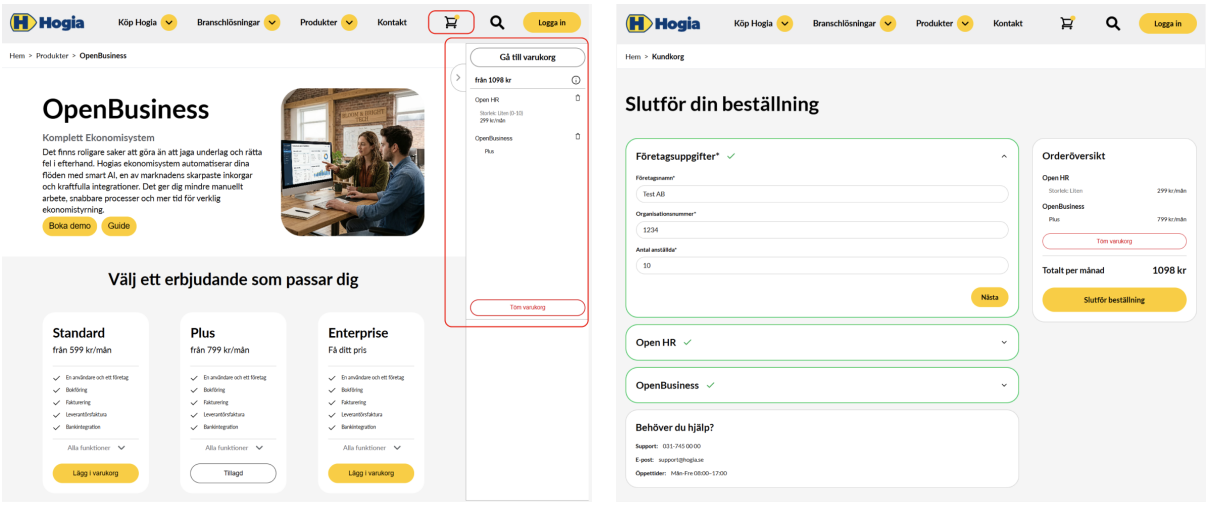


(b) A section of the product page for HR and Salary systems

Figure 21: Examples of product pages

7.3.2 Shopping Cart and Checkout

A shopping cart was added to the website so that the user can receive an overview of the products they want to purchase (see Figure 22a). The shopping cart can be accessed by clicking on the shopping cart symbol in the top bar or by clicking on the arrow at the side of the page. Pushing the arrow opens a small slide-in section that gives the customer information regarding the content of the cart and a price estimation based on the current choices that have been made in terms of products and options. This section is also available to the user as they continue to navigate the website, and the information will be updated as soon as the customer makes any changes to their choices. In addition to showing information, the slide-in section provides useful shortcuts to the checkout and can also easily be emptied if the user wants to redo the purchasing process with a clean slate.



(a) Shopping cart integration

(b) Example of the checkout view

Figure 22: The shopping cart and checkout view

Once the customer is satisfied with their initial choices, they can proceed to the checkout (see Figure 22b) where they will receive more detailed information regarding their choices and changes can be made if necessary. On the right side the order information is clearly displayed and shows all the products and how they contribute to the final price. If changes are made the pricing information will be updated so that the user can see the implications of their changes in real time. Moreover, green outlines are used to communicate that a step in the checkout is complete and the button for completing the purchase lights up when the customer has completed all previous steps.

7.3.3 Guide for Purchasing

For the first prototype two separate customization guides were implemented. The first being a process that lets the customer choose what functionality they would like their final solution to have (see Figure 23). The second being a purchasing guide where the customer will answer questions and based on those answers they will be presented with an offer that covers their needs and is ready to purchase (see Figure 24). In contrast if a customer decides to choose products by functionality they will be presented with a recommendation instead that guides them to the products they need to buy. This way the customer can choose if they want to receive a finished package or if they just want to get an idea of where they should start in terms of products.

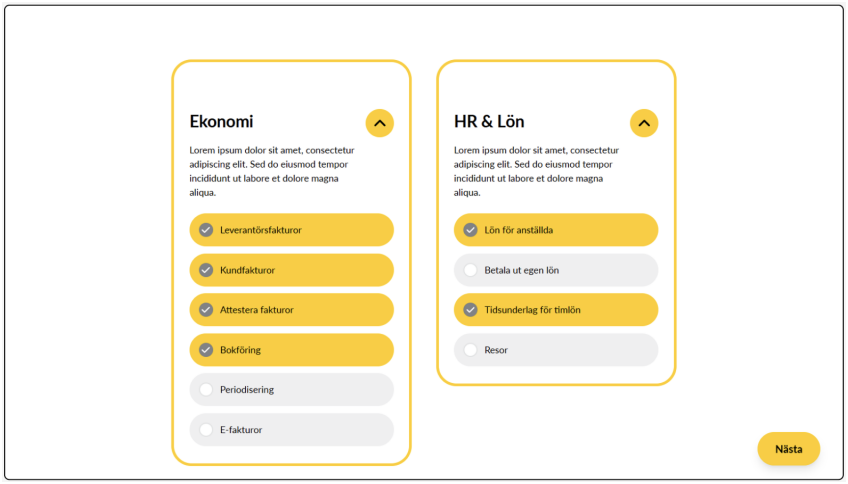
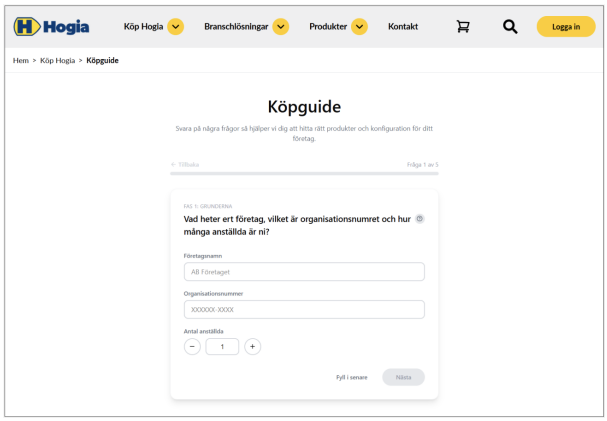
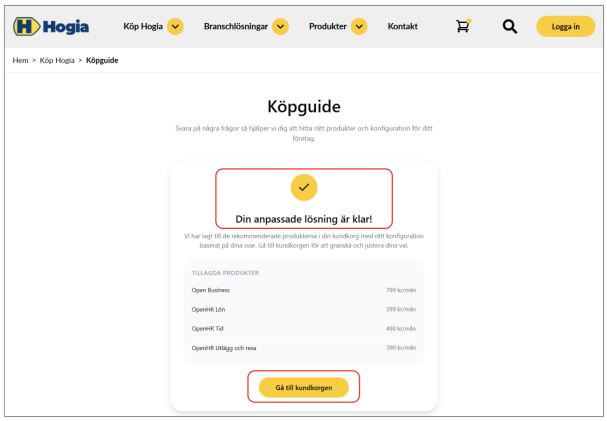


Figure 23: Extract from choosing functionality



(a) Purchasing guide question



(b) Offer presented in the and of the guide

Figure 24: The shopping cart and checkout view

7.4 Qualitative Usability Testing Insights

A total of four usability tests were conducted including one pilot test. The qualitative analysis of the tests yielded valuable insights for usability improvements, these are summarized in the list below.

1. **Terminology, naming and language**

    - **Confusion over product names:** Users did not understand the names of the products (*e.g. OpenBusiness, OpenHR*) which caused confusion regarding what products actually do. Users forgot and had to check again.
    - **Categorization:** Broad terms like "Helhetslösningar" (Complete solutions) was misunderstood. Users struggled to differentiate overlapping domain terms such as "Lön och Tid" vs "Tid och avvikelsehanteringar" (*Salary and time* vs *Time and deviations management*) or "Bokföring" vs "Bokslut" (*Accounting* vs *Financial statement*).
    - **Unclear roles and licenses:** The users did not understand terms like "User" and "Admin" in the context of system licenses, as well as the concept of company vs individual licenses.

2. **Shopping Cart and Checkout Flow**

    - **Timing of configuration step:** Users failed to realize that settings and system configurations take place *inside* the shopping cart. They often searched for configuration options on the product page before navigating to the cart.
    - **Anxiety regarding checkout persistence:** Users expressed a fear of navigating away from the checkout as they did not want to lose configurations. When they realized that the cart saved their progress it resulted in relief.
    - **Lack of product information inside the cart:** Once in the checkout, users expected to be able to read more about the specific products, rather than just seeing settings. Especially when arriving from the buying guide.
    - **Automatic price updates and price consistency:** While the auto-updating price was praised as smooth, some users reacted negatively when they saw the total price per year in the checkout overview after previously seeing it per month everywhere else. Both because the number suddenly felt much higher and because they expected to be able to be billed monthly.

3. The buying guide and "Choose by functionality"

- **The guide encourages over-purchasing:** Overall, the buying guide functioned well and received positive feedback regarding the experience. It was generally perceived as more convenient and less demanding than finding the right products manually. However, some users felt the guide influenced them to add unnecessary extra modules ("just in case"). The users stated that they did this to post-pone their decision. This resulted in a unexpectedly high total price and a feeling of not getting the best deal.
- **Preference for manual selection:** Due to the fear of being led to buy more than needed via the guide, some users preferred the manual process to remain in control.
- **Confusing results from "Choose by functionality":** The initial reaction to "choose functionality" was positive and the users felt like it was intuitive. However, the users expected a specific, tailor-made solution based on their inputs. Instead, they were confused when met by a standard list of recommended products. They were not able to distinguish between packages and products.
- **Absence of post-guide context** Upon completing the buying guide and automatically entering the cart, users lacked context for why certain products were added. At this point they did not understand the names of the products.

4. Information Architecture and Visual Cues

- **High Learnability vs. Low Guessability:** The user tests indicated that the prototype had low initial guessablilty which caused friction. However, it also demonstrated high learnability. As users progressed through tasks they could quickly recognize UI patterns which led to fewer errors and faster navigation.
- **Hidden information and missing visual cues:** Users did not understand where to click to show more information. E.g. while searching for additional information about functionality or modules. There was a demand for clearer visual indicators.
- **Packages vs. Levels:** Users struggled to understand the difference between packages and levels. They were not able to distinguish packages of multiple products with singular products.

5. **Trust, Security and Domain Knowledge**

- **Low domain confidence:** Users with lower domain knowledge felt uncertain about wether they successfully managed to solve the tasks. They relied heavily on the UI for reassurance.
- **Hesitation towards digital sales for enterprise systems:** Some users stated that they would not feel comfortable buying, large complex systems entirely via a web interface without talking to a sales representative at some point.

8 Service Design Development and Evaluation Results

This chapter presents the outcomes of the Service Design development and evaluation activities including an analysis of the Customer Journey, three alternative versions of the Customer Value Constellation (CVC) and the Service System Architecture and Navigation (SSA/SSN) for the proposed Service Offering. The chapter concludes with the final Service Prototype Evaluation results.

8.1 Customer Journey

The general Customer Journey for a SaaS customer, illustrated in Figure 25, builds on the knowledge generated in previous phases. 12 steps were identified and analyzed:

1. **Need recognition:** The customer recognizes the need for SaaS as a part of their CVC. This can happen through word-of-mouth, web searches, sales calls, social media campaigns and more.

2. **Information search:** The customer tries to determine the need more precisely and explores possible solutions. Might look for prices, functionality, benefits and more.

3. **Consideration of options:** The customer compares the value and suitability of different options. At this point, they might consider requirements and wishes. The customer has potentially already found a favorite as they starts to get a clearer understanding of the available options. This step potentially involves the customer engaging in product demos, or in other ways familiarizing with considered solutions.

4. **Decision making:** The customer makes a choice based of previous steps but can still be influenced in their decision.

5. **Ordering:** The customer makes a choice based of previous phases, the decision can still be influenced by the experience.

6. **Payment:** The customer makes the first payment, depending on the specific case, this might happen before or after start of SaaS usage.

7. **Start of Service usage:** The customer begins using the software and potentially engages in on-boarding activities or consultation.

8. **Service usage:** The customer successfully integrated the service into their day to day operations and the value of the service is finally realized. The customer actively engages with the service and user experience constantly influences that decision.

9. **Expansion/renewal:** The customer chooses to renew the service and might consider expanding to additional services, more licenses or increased usage which can lead to new business opportunities. Lock in effect is an important factor for the decision to renew the service agreement.

10. **Advocacy:** The customer potentially engages in word of mouth, spreads their thoughts about the service or get a new role in a new company. This is highly influenced by the overall user experience of the whole Customer Journey and can lead to new business opportunities.

11. **End of Product usage:** The customer potentially chooses to cancel the service. This can be influenced by direction of development for the service, up-scaling, down-scaling, poor user experience, customer relations, lacking engagement, competing service offerings and cost. This results in a loss of business opportunity. The user potentially engages in off-boarding activities.

12. **Return to service:** The previously lost customer potentially returns again. This is influenced by the complete user experience, particularly the user experience and the relationship with the provider in the off-boarding step.

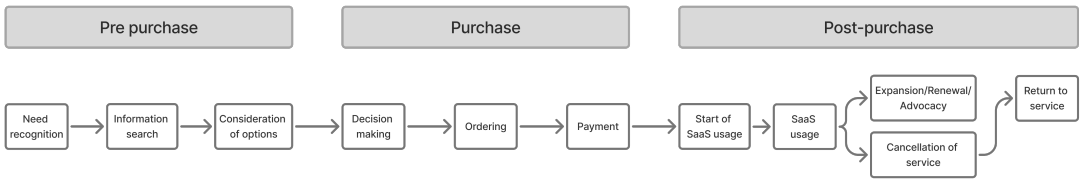


Figure 25: General Customer Journey of a SaaS customer

8.2 Customer Value Constellation

The general Customer Value Constellation (CVC) is illustrated in Figure 26. The black oval represents the main activity of a typical SaaS customer: *Uphold and streamline business critical operations*. The white ovals represent the internal activities of the customer and other service provider activities. The gray ovals represent the activities within the SaaS firm service concept. Together it creates a network of how customer value is created through different activities. Figure 27 and Figure 28 represent more specific cases for two typical types of SaaS customers, the CVC of a Property management firm and the CVC of a Accounting firm respectively.

Figure 26: CVC of General SaaS customer

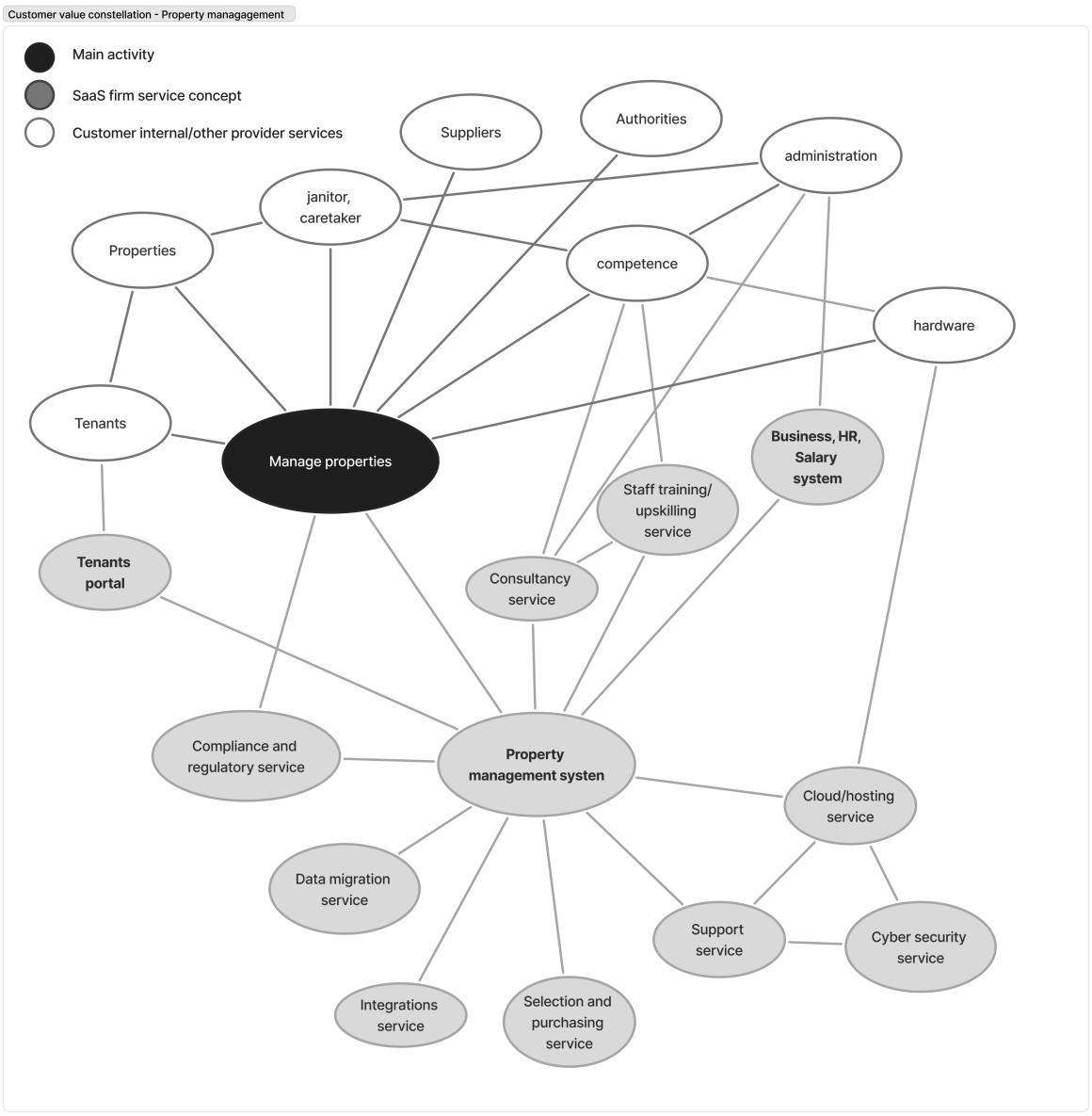


Figure 27: CVC of Property management firm

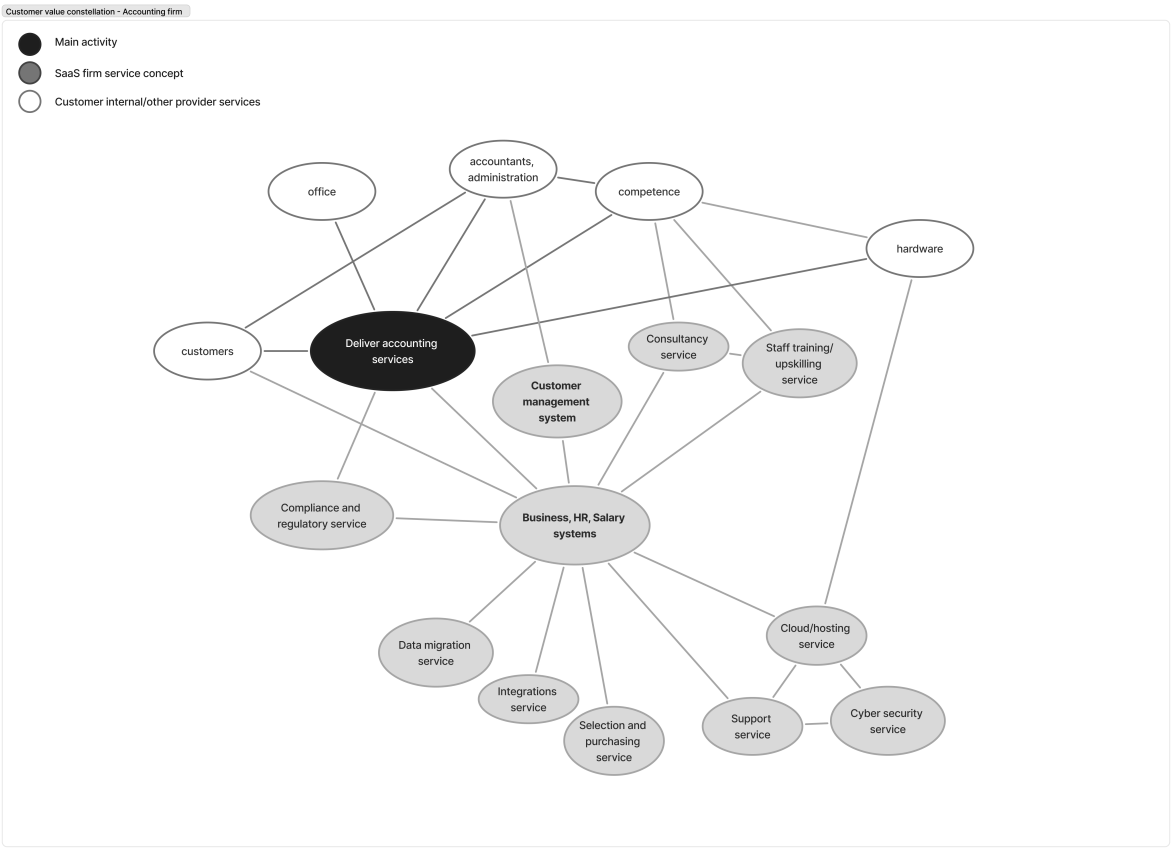


Figure 28: CVC of Accounting firm

8.3 Service System Architecture and Service System Navigation

The baseline architecture outlines the touch points where interaction happens between the customer and any of the interfaces of the partner company's service concept. Ten touch points were identified, from need recognition to end of SaaS usage. Four visible service interfaces were identified: Internet/website, SaaS, Telephone/Email/Message, Customer Success team and Support team. In addition, two instances of backend support were identified as: Backstage employee action and backend systems. A portion of the partner company's baseline Service System Architecture (SSA) and Service System Navigation (SSN) and the improved version is illustrated in Figure 29 and Figure 30 respectively.

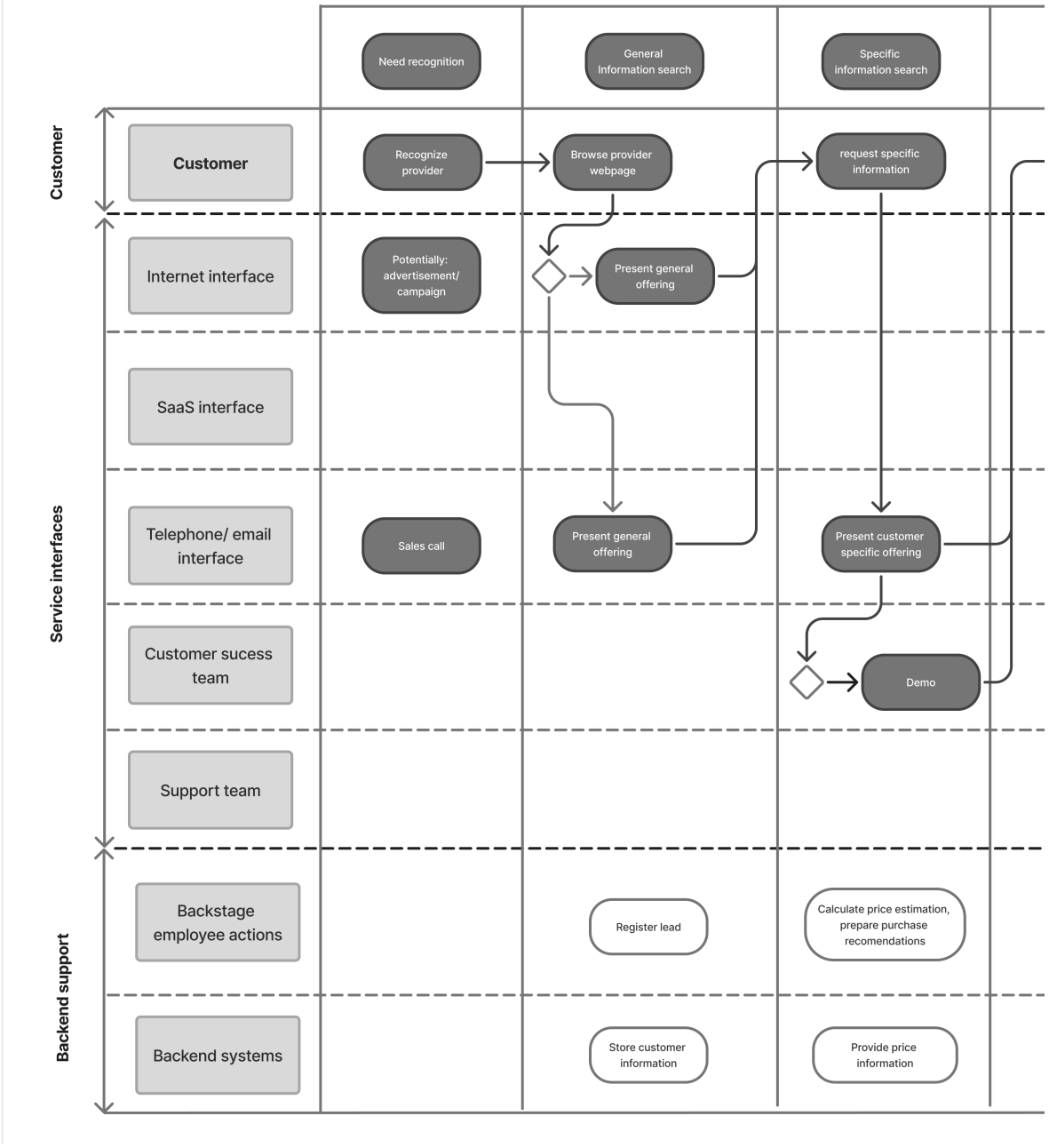


Figure 29: Portion of the baseline SSA/SSN

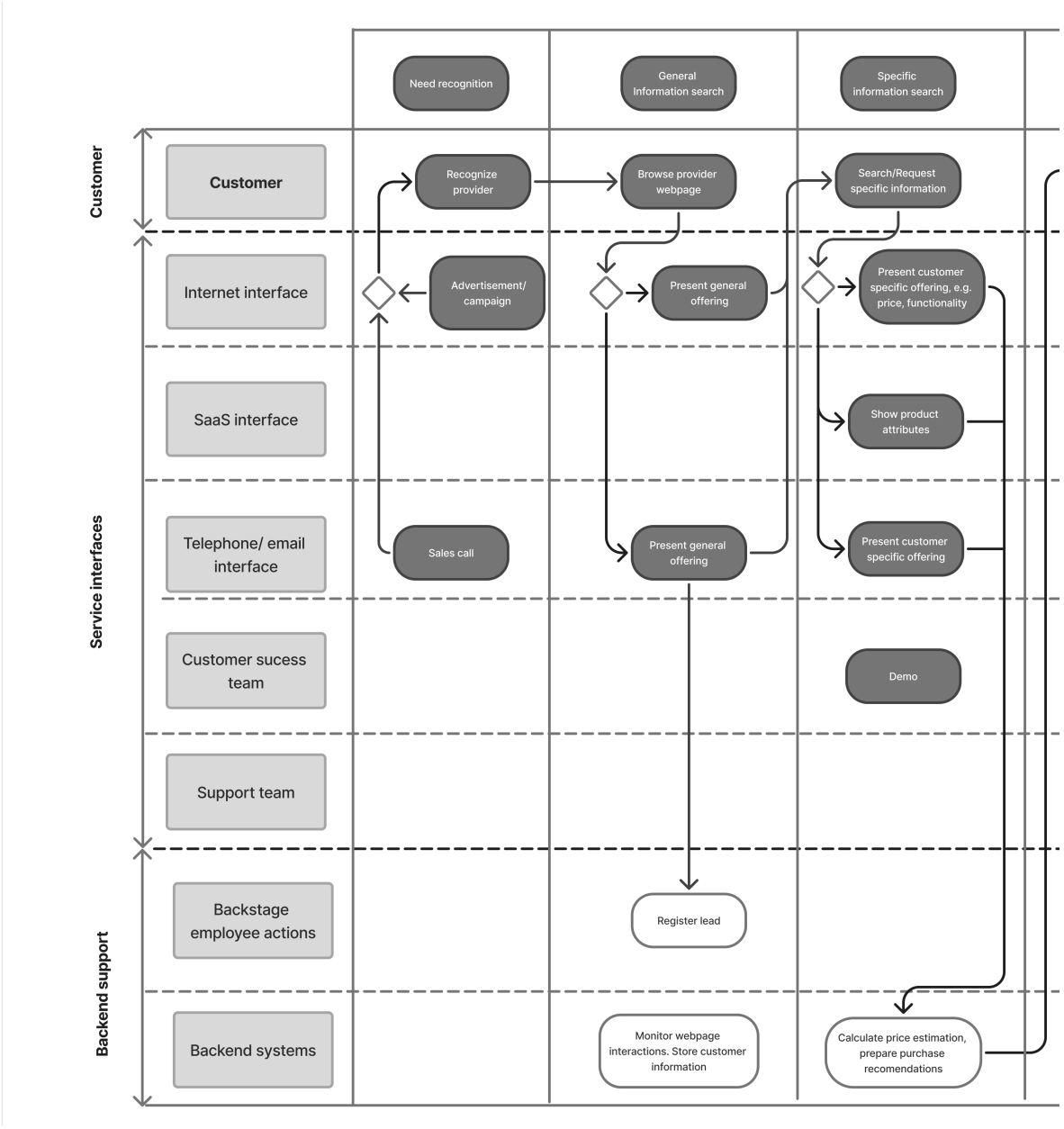


Figure 30: Portion of the redesigned SSA/SSN

In the following section, the architectural and navigational modifications resulting from the redesign activity are explained in contrast to the baseline architecture. The proposed redesign is presented in each touch point. The systemic interventions involved modification of existing interactions and introduction of new interactions across multiple touch points and interfaces with the aim of improving the Service experience across the complete Customer Journey.

Need Recognition

No architectural modifications were introduced in this touch point. This stage remains a primarily customer-driven interaction, as marketing strategies fall outside the current scope of this study.

General Information Search

The backend architecture was enhanced to continuously monitor webpage usage, capturing behavioral data to improve both usability and product offering alignment. Additionally, the backend system now logs prospective leads to dynamically adjust and personalize content for specific users.

Specific Information Search

- **Modified Interaction:** Enables autonomous customer information retrieval and self-service search.
- **Added Interaction:** A dynamic digital interface was implemented to present customer-specific offerings (e.g., pricing and functionality), allowing users to actively interact with real-time price calculations.
- **Architectural Shift:** Price calculation was shifted upstream (above the line of visibility) to facilitate customer interactivity. Manual calculations previously executed by backstage employees are now automated via backend systems and rendered directly on the webpage.
- **Added Interaction:** To accelerate system comprehension, a preview capability was introduced to display core features of the SaaS-product directly on the website.

Place Order

An order-ingestion capability was added to the website interface. When utilized by the customer, order details are captured autonomously, bypassing the need for manual backstage employee intervention.

Purchase

The website interface delivers instant order confirmations. Backend systems provide automated invoicing and license provisioning to replace manual backstage processing, thereby eliminating weekend operational delays and enabling instant system access.

Start of SaaS Usage

Operational decision-making and on boarding triggers were moved from backstage employees to automated backend system processes.

SaaS Usage

Primary customer "health" and usage monitoring was shifted from the customer success team to automated backend systems, establishing a collaborative, data-driven support model for the customer success team.

Service Renewal

- **Added Interaction:** Renewal proposals are now structurally embedded and prompted directly within the SaaS application interface rather than being initiated manually via telephone or email.
- **Modified Interaction:** Traditional communication channels (telephone and email) were repositioned to act as secondary support mechanisms for the primary in-app renewal flow.

Service Expansion

- **Modified Interaction:** Expansion suggestions are now generated within the SaaS interface, allowing customers to either accept pre-configured recommendations or independently search for add-ons.
- **Added Interaction:** The expansion environment was architecturally and visually aligned with the primary website to leverage design familiarity reduce cognitive friction of the customer.
- **Modified Interaction:** Telephone and email channels were transitioned to a secondary supporting role for the digital-first expansion flow.
- **Architectural Shift:** Responsibility for billing updates and license activations was transferred from backstage staff to automated backend systems.

End of SaaS Usage

- **Added Interaction:** Autonomous cancellation request handling was integrated directly into the SaaS interface.
- **Added Interaction:** A dedicated off-boarding workflow was assigned to the customer success team to maximize the probability of future customer return.
- **Modified Interaction:** Backend systems were configured to automate data extraction and instantly execute system cancellations, minimizing off-boarding lead time while providing data-driven support to the off-boarding team.

8.4 Service Prototype Evaluation

The service experience was evaluated in the four dimensions of the EXQ framework: *Peace of mind, Moments-of-truth, Outcome Focus and Product Experience*. Respondents rated their experience on a seven point scale (1=strongly disagree, 7 = Strongly agree) The mean values and medians for each question is reported in Table 4.

Table 4: Descriptive Statistics for Evaluated Survey Item Scales

Dimension & Survey Item	**Ideal**	n	**Mean** (μ)	**Median** (M)
Product Experience				
I had the opportunity to compare and choose between alternatives.	↑ High	6	6.83	7
It did not feel like Hogia understood what I needed.*	↓ Low	6	2.50	2
I did not feel engaged during the course of the process.*	↓ Low	6	1.17	1
Outcome Focus				
I found a solution and verified it met my needs without much effort.	↑ High	6	6.33	6
Once I knew what I wanted, I completed the purchase seamlessly.	↑ High	6	7.00	7
I have a feeling that I have ordered more than what I actually need.*	↓ Low	6	2.00	1.5
Moments-of-Truth				
I received access to the information I needed during the process.	↑ High	6	6.17	6.5
I received access to information at the right times during the process.	↑ High	6	6.17	6
Peace of Mind				
Based on this experience, I have high confidence in the company.	↑ High	6	6.50	7
Overall, the process felt simple and smooth.	↑ High	6	6.33	6.5
I experienced a sense of control throughout the entire process.	↑ High	6	6.50	6.5

*Note: Negatively phrased item. A lower score indicates a more favorable customer experience.

9 Final Design

The final design consists of a website prototype which represents the Internet Interface in the context of the Service System. In the following section, the different parts of the prototype will be presented and connections to some of the other interfaces, the telephone, chat and SaaS interface will be explained. Note that the final design is a prototype, prices, product configurations and modules are not real. Their sole purpose is to exemplify the proposed solution and enable prototype testing and evaluation. In this design, Hogia's webpage is mimicked and their products are used as examples.

9.1 Navigation

The website navigation includes a top bar that stays consistent throughout all pages (Figure 31 [1.]). It has three drop down menus that allows the user to navigate to the buying guide, industry specific solutions and products. There is also a contact button and a cart button that leads to the checkout page. Breadcrumbs (Figure 31 [3.]) appear across all pages to facilitate navigation to previously visited pages. Typical hero sections include Action buttons (Figure 31 [4.]) which guides the user into the purchasing flow.

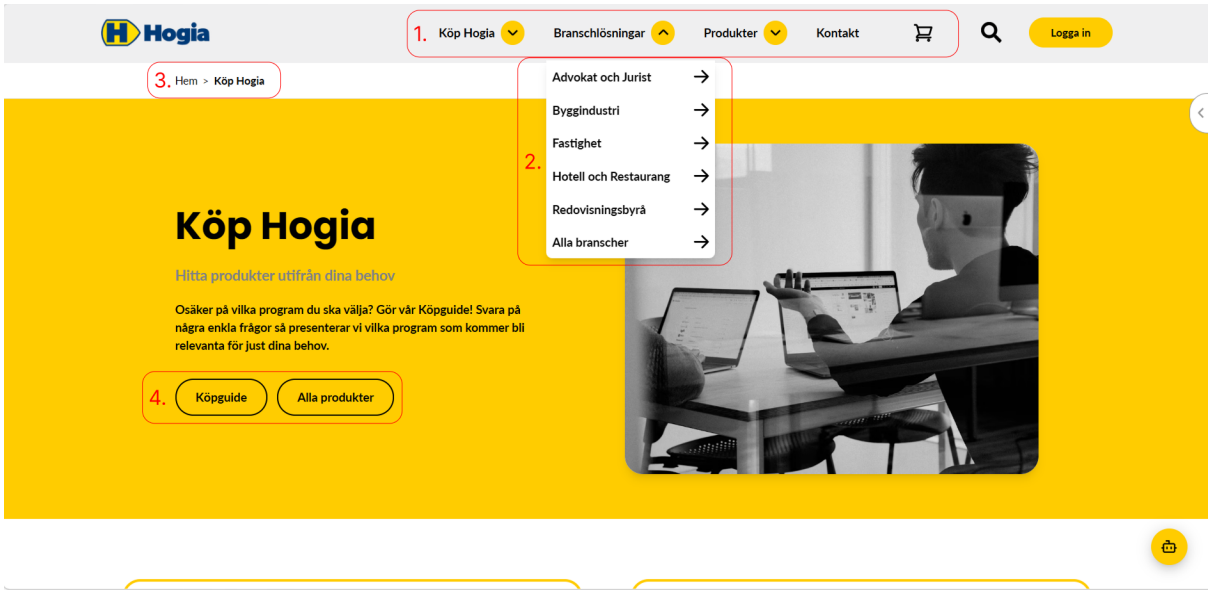
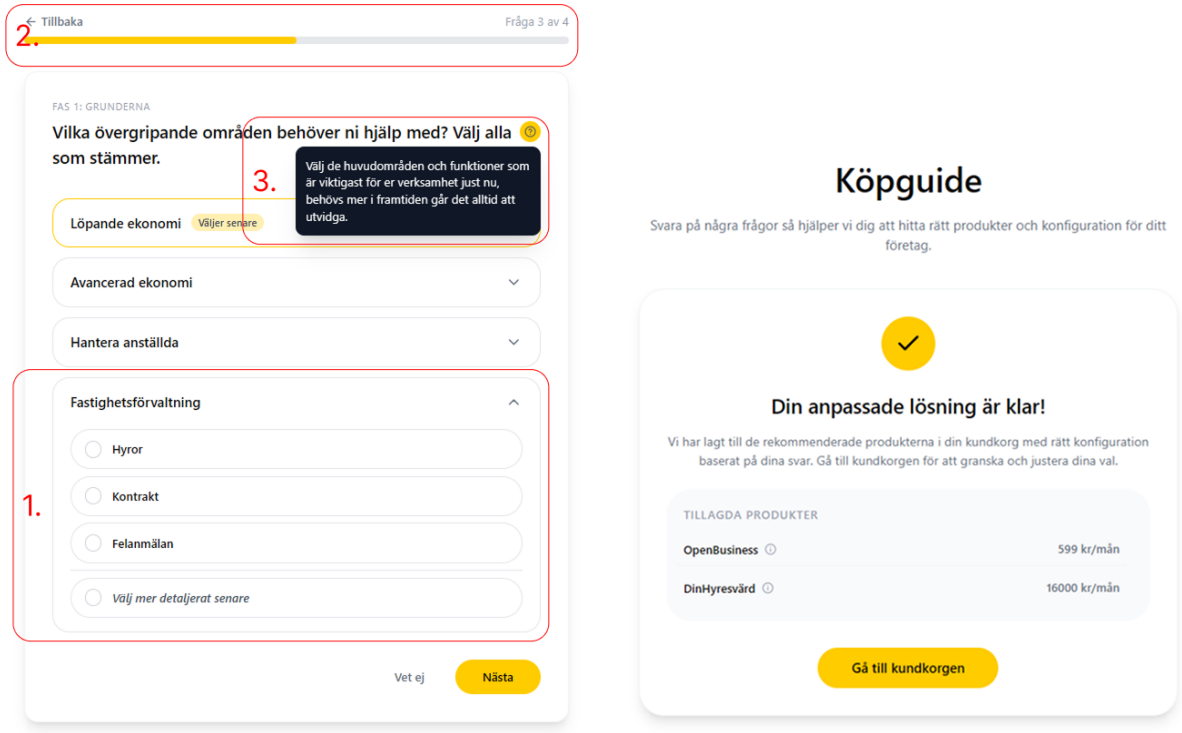


Figure 31: Website navigation

9.2 Purchasing Guide

The purchasing guide is an interactive flow that adapts to the answers of the user. The interface has a bar to indicate progress (Figure 32a [2.]), and a information icon which opens an information overlay (Figure 32a [3.]) that further explains the question. Every

user receives a number of basic questions to collect basic company information and capture general needs. The general needs are captured through letting the user select general functionalities (Figure 32a [1.]). After finishing the basic phase, the user is asked whether they want to exit the guide or continue for a tailored solution. If the user chooses to exit, a recommendation with the general programs will appear. If the user chooses to continue, they get to answer specific questions based on previous answers and eventually arrive at a more detailed recommendation. The guide is integrated with the cart, and the recommended products are automatically added to the cart after finishing the guide. The user is informed about this and encouraged to go to the checkout to review and adjust the product specifications (Figure 32b).



(a) Question to determine general needs.

(b) Example of result after finalized guide.

Figure 32: Purchasing Guide examples

9.3 Cart

When the user adds a product to the cart (Figure 33 [1.]) the cart component appear automatically in the right side of the page (Figure 33 [2.]). The cart is interactive and synchronized with the product pages and the checkout, i.e. if the user changes anything in another place those changes will appear in the cart too, and vice versa.

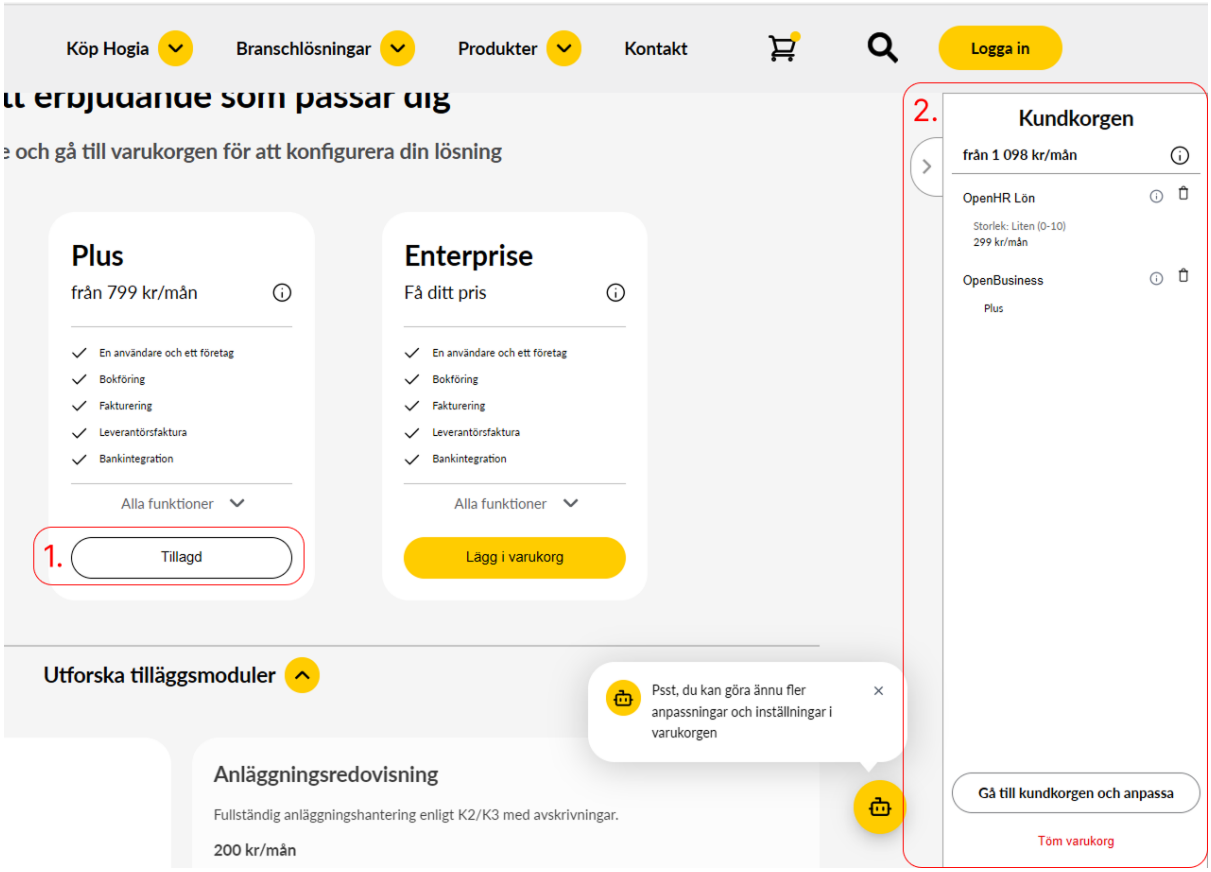


Figure 33: Cart component

9.4 Checkout

The checkout page consists of multiple components that allows the user to modify their selection, ask for help and proceed to complete the purchase. The product specification cards in its closed state (Figure 34 [1.]) expands to reveal product specific settings (Figure 35). In this component the user can adjust number of licenses, level and additional modules. The content depends on how the product is sold. It is also possible to navigate back to the product page. The Order overview is updated accordingly, listing selected products and the total price (Figure 34 [2.]). The finalize payment component displays payment frequency settings and terms and condition (Figure 34 [3.]). It is not possible to place the order until company details are correctly provided and the user agreed to the terms of use and payment. The contact component allows the user to quickly get in contact with a chatbot or human sales representative without exiting the checkout page(Figure 34 [4.]). After proceeding to place the order, the user gets instant feedback through an order confirmation and is provided with instant access to the purchased products (Figure 36).

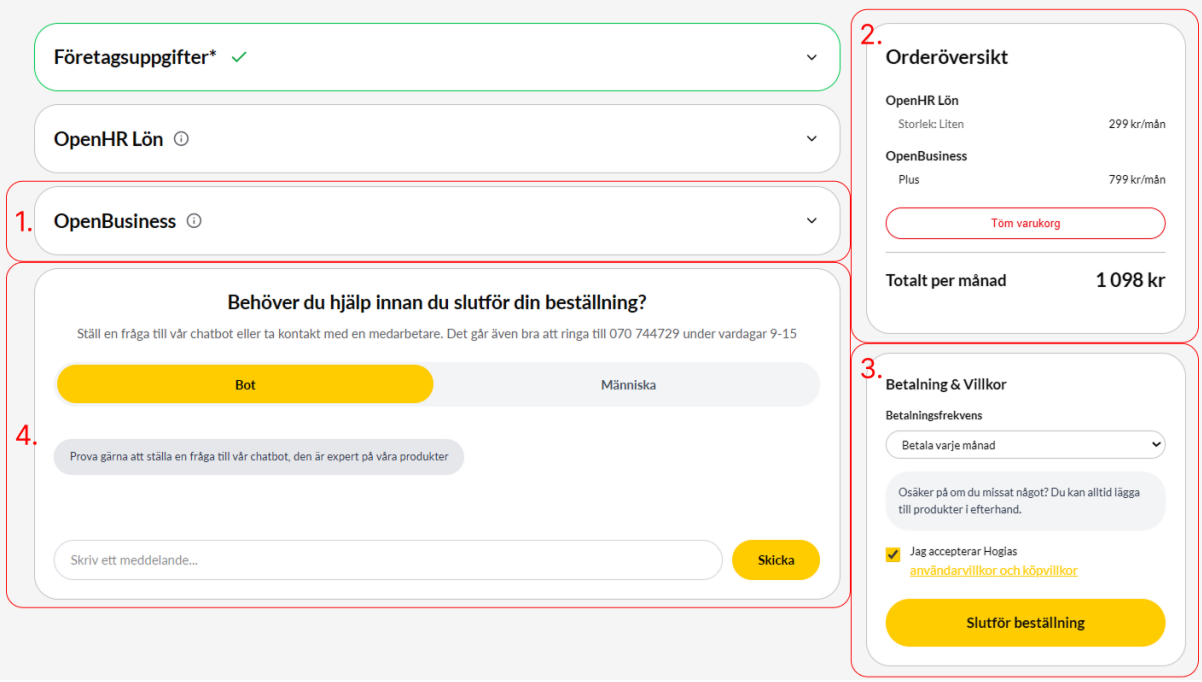


Figure 34: Checkout page

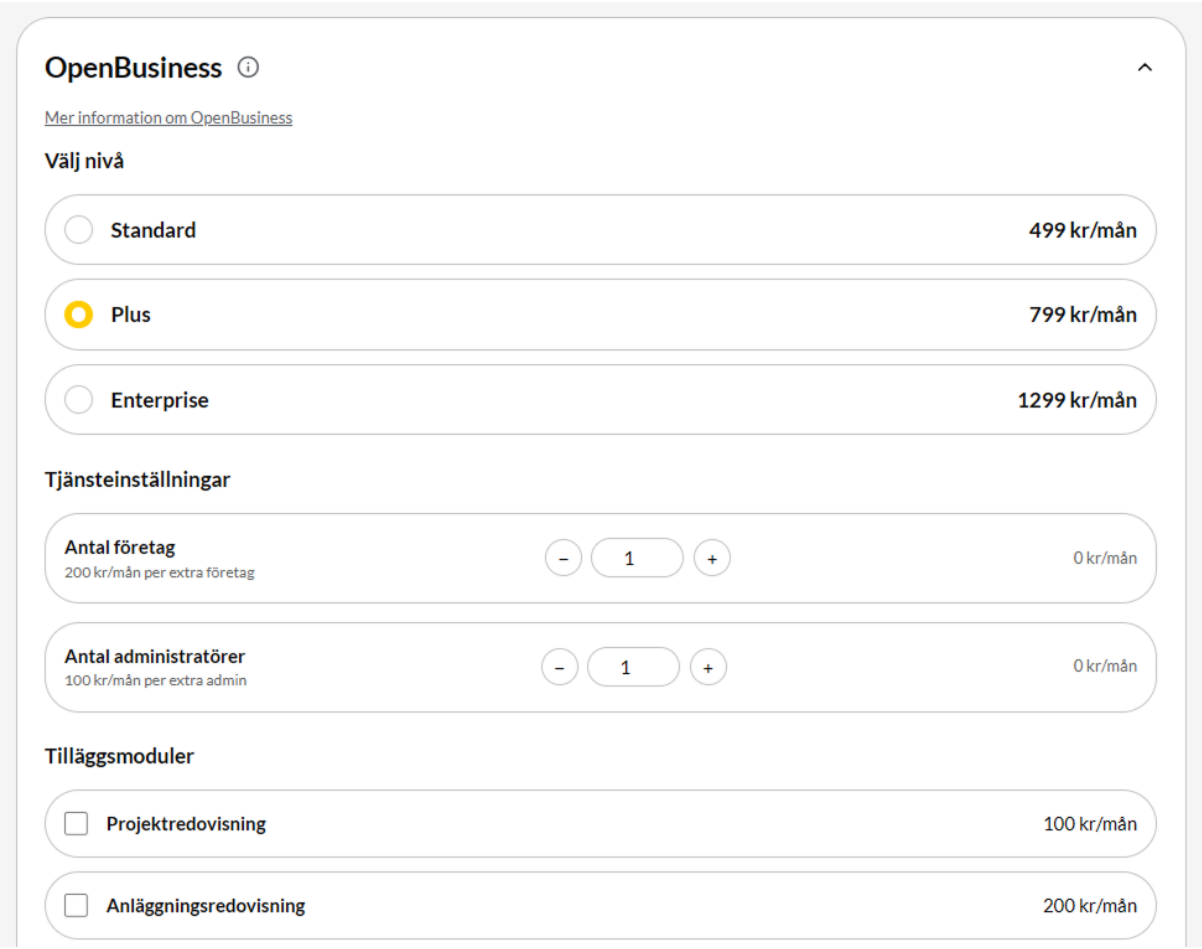


Figure 35: Open Product Specification card

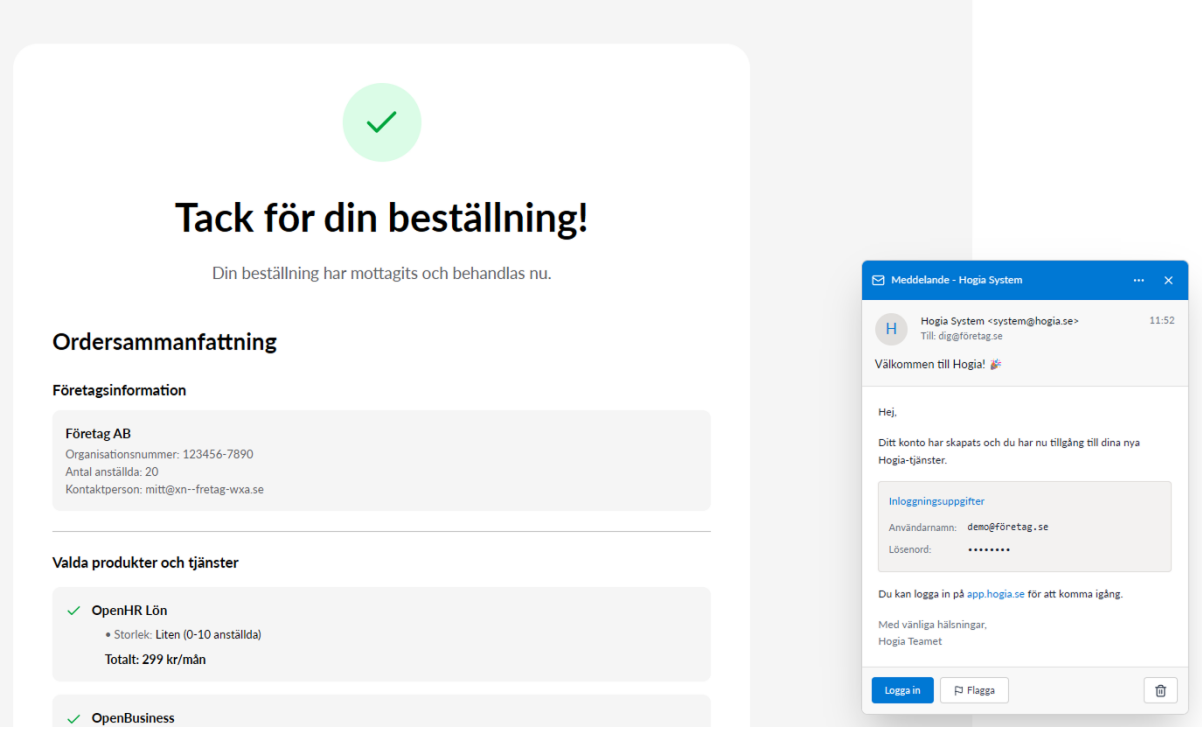


Figure 36: Order confirmation

9.5 Industry Solutions

The industry specific solutions pages gather all the information and products that might be relevant to that specific industry. Figure 37 illustrates available packages for accounting firms.

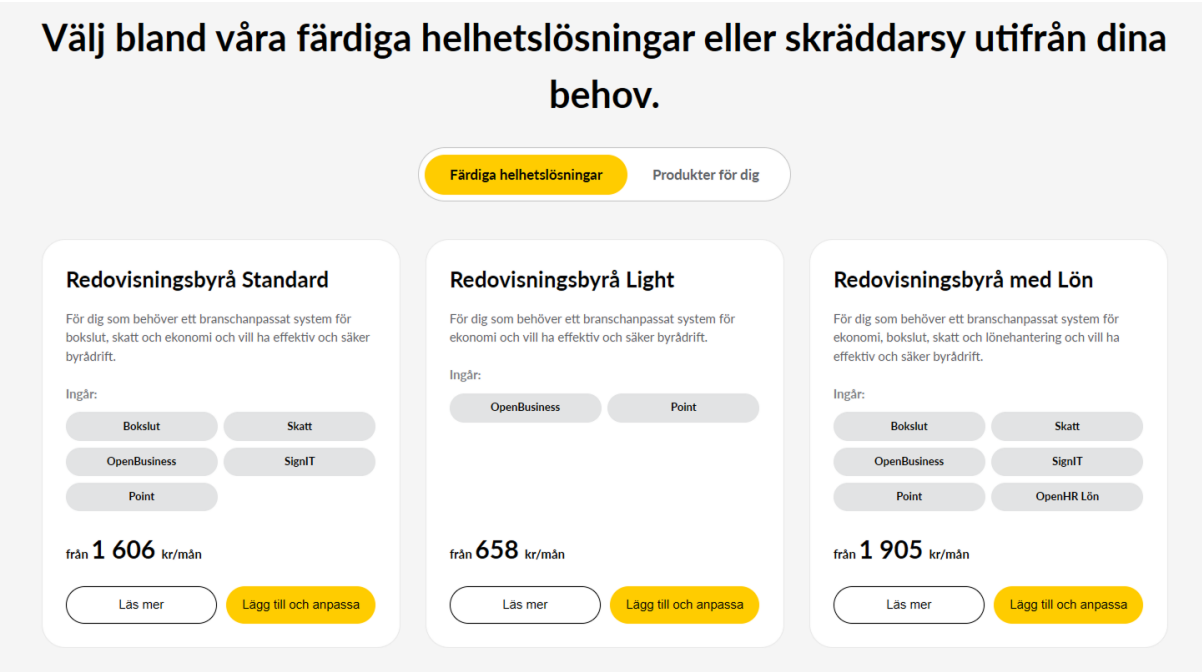


Figure 37: Section in the Accounting page

9.6 All Products

The All products page gathers all of partner company's products across all industries to show their broad offering. The filter function lets the user prioritize the page according to their needs (Figure 38).

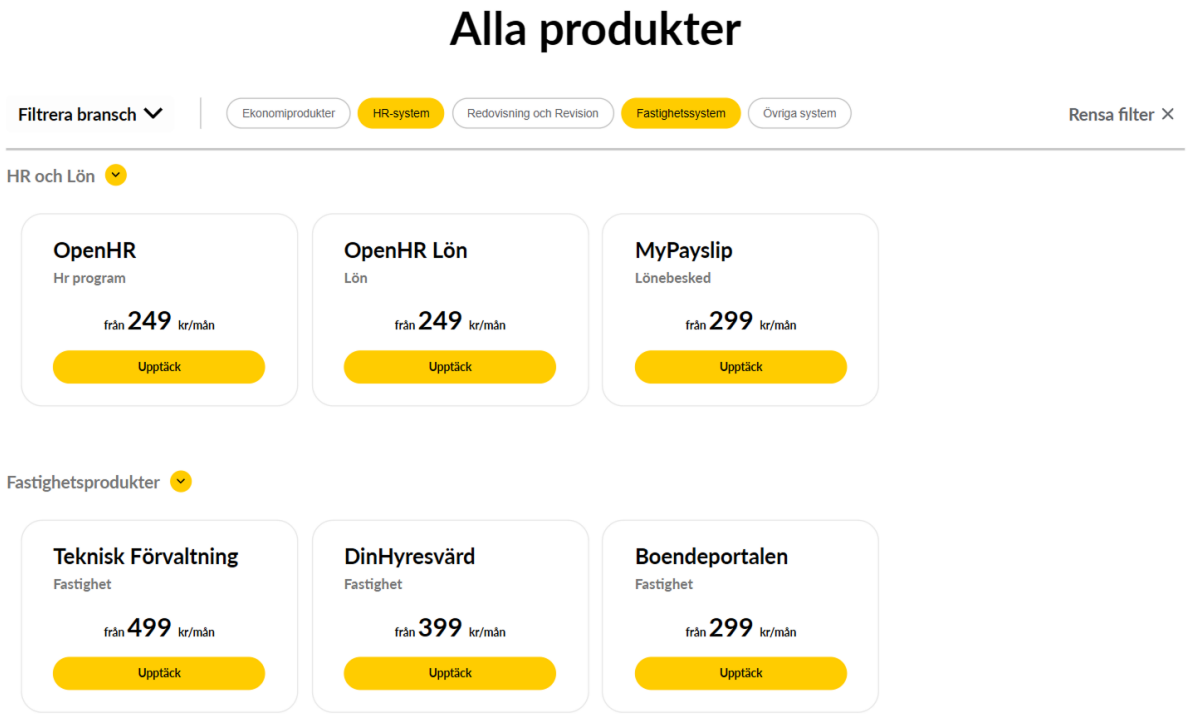


Figure 38: All Products page with filter function

9.7 Product Pages

The typical product page contains a hero section, package section, additional modules and contact information. The implementation of the package section varies for the different products as a result of how they are sold. In the following section, two examples are presented.

9.7.1 Open Business

Open Business is Hogia's economy system. It is sold through three levels: Standard, Plus, and Enterprise. To offer the right information in the right place, each item in the list is clickable (Figure 39 [1.]). When clicked, an information overlay opens to provide the user with more information about the specific function 40. Any of the three levels can be paired with additional modules, in this example, one of the modules were already included in the Plus level (Figure 39 [2.]).

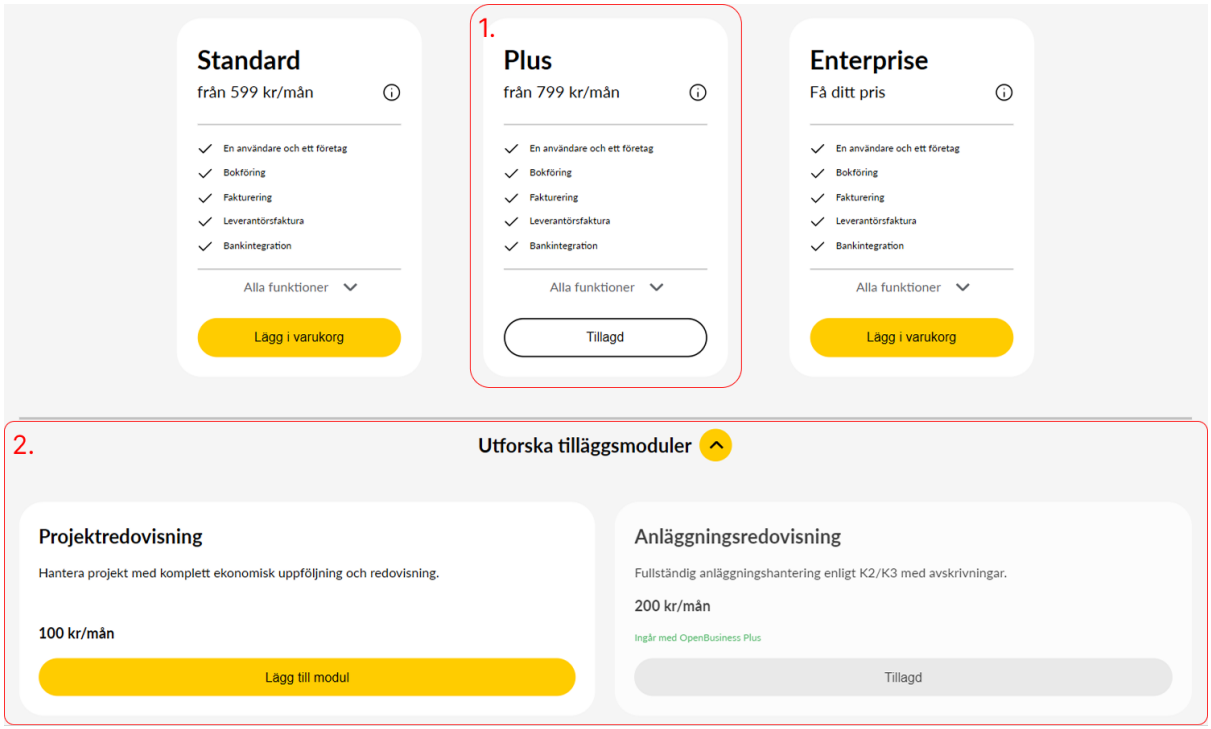


Figure 39: OpenBusiness - Economy system sold through packages and additional modules

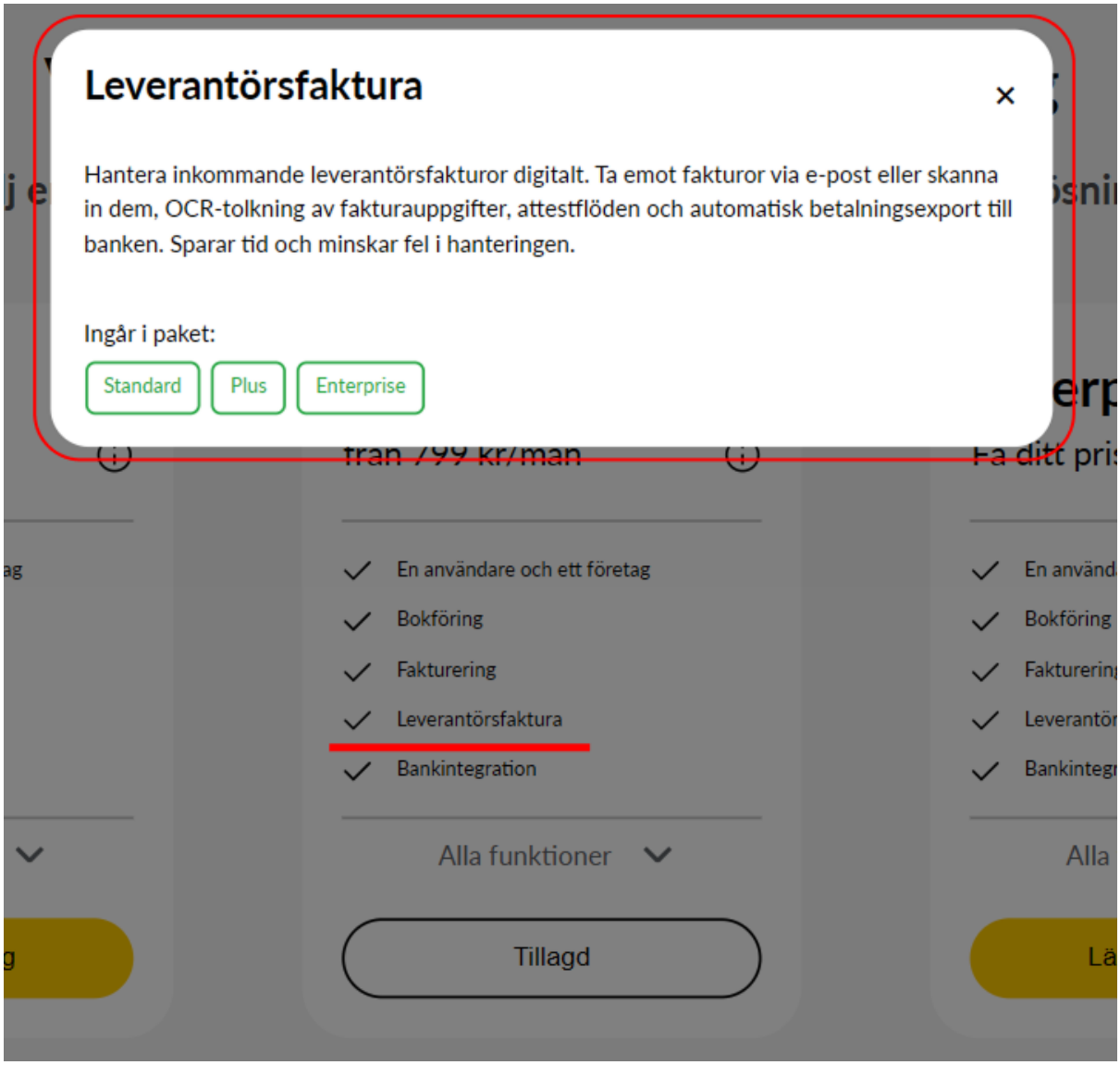


Figure 40: Information Overlay

9.7.2 Din Hyresvärd

DinHyresvärd is sold as a base module with optional additional modules. In contrast to *OpenBusiness*, there are no levels. When a module is added (Figure 41 [1.]), the total price updates and it's respective functions gets checked in the functions table (Figure 41 [2.]). To learn more about a particular function, click to open an information overlay similar to the ones illustrated in Figure 40.

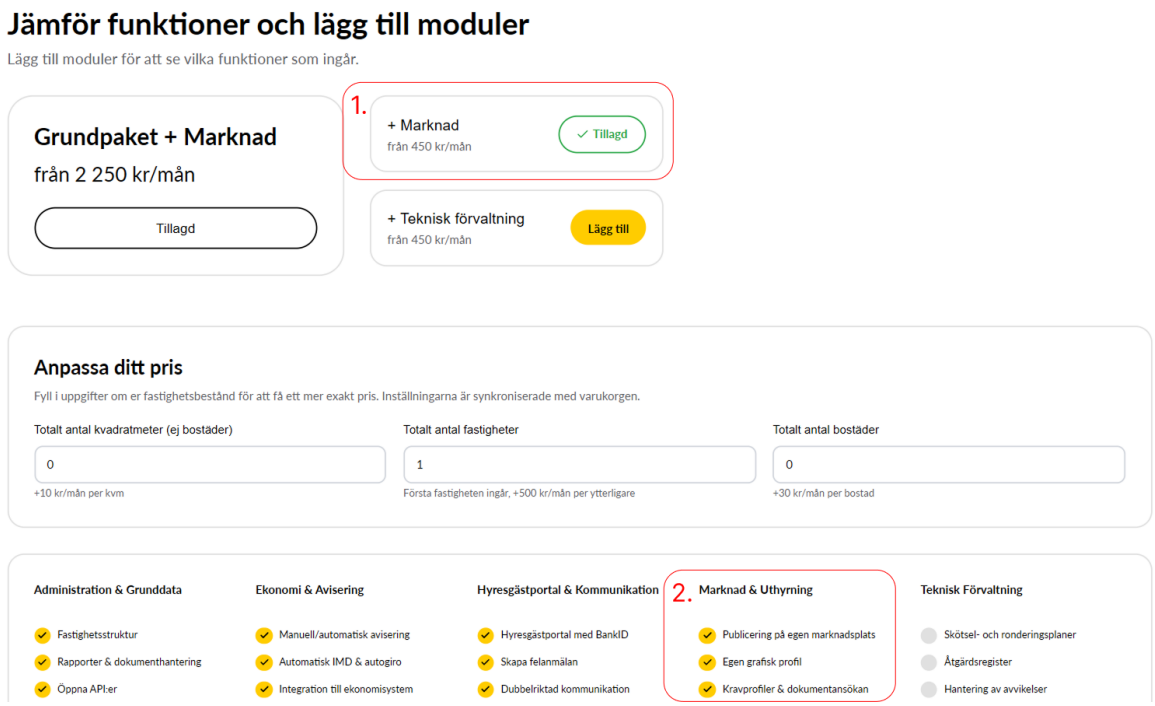


Figure 41: DinHyresvärd - property management system sold through modules

9.8 Eco System Display

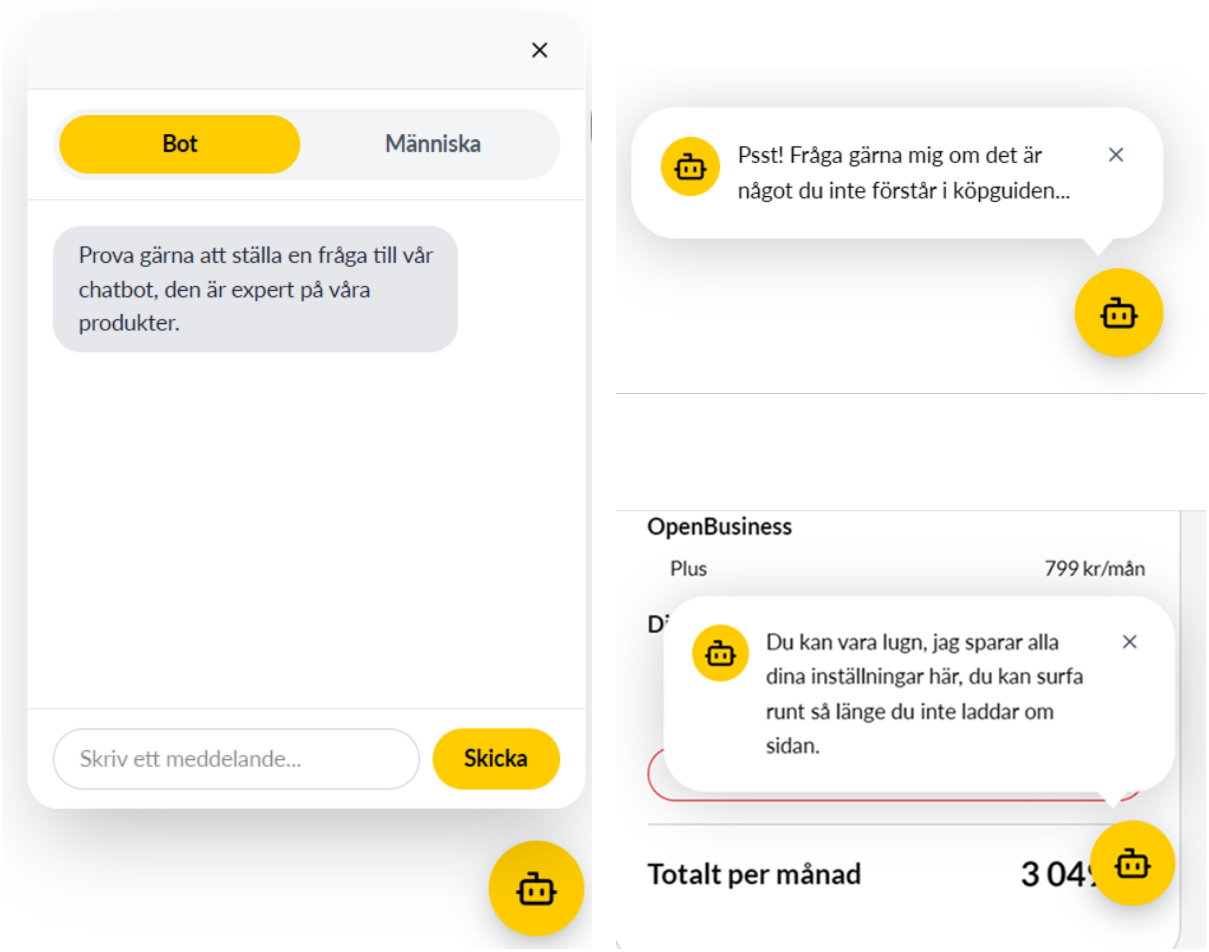
This component can be implemented in multiple different pages in the website. It's purpose is to highlight how products that are sold separately complement and integrate with each other. An example of how *DinHyresvärd* integrates with *Open Business* is illustrated in Figure 42

Figure 42: Eco system section

9.9 Chatbot Interface and System Messages

A Chatbot icon is available in the bottom right corner of all pages. It allows the user to contact either a bot or a human sales representative to satisfy the need of quick answers and personalized service (Figure 43a).

The chatbot icon also serves as system message deliverer. Across different pages, different clues appear to help the user or simply remind them that the chatbot is there to help. This gives the chatbot a more interactive feel, almost like a virtual shopping assistant, always one click away (Figure 43b).



(a) Chatbot Interface (b) Examples of system messages

Figure 43: Chatbot and System Messages

9.10 Contact Section

The contact section is another section that is reused in different places in the prototype, it appears on the starting page, in the product pages and in the checkout. The purpose of this section is to offer help and give access to additional information at suitable points in the different user flows. The contact section has a personal touch with a portrait of a sales representative, telephone number and email. It is complemented by a chat interface that automatically opens the chat interface when used (Figure 44).

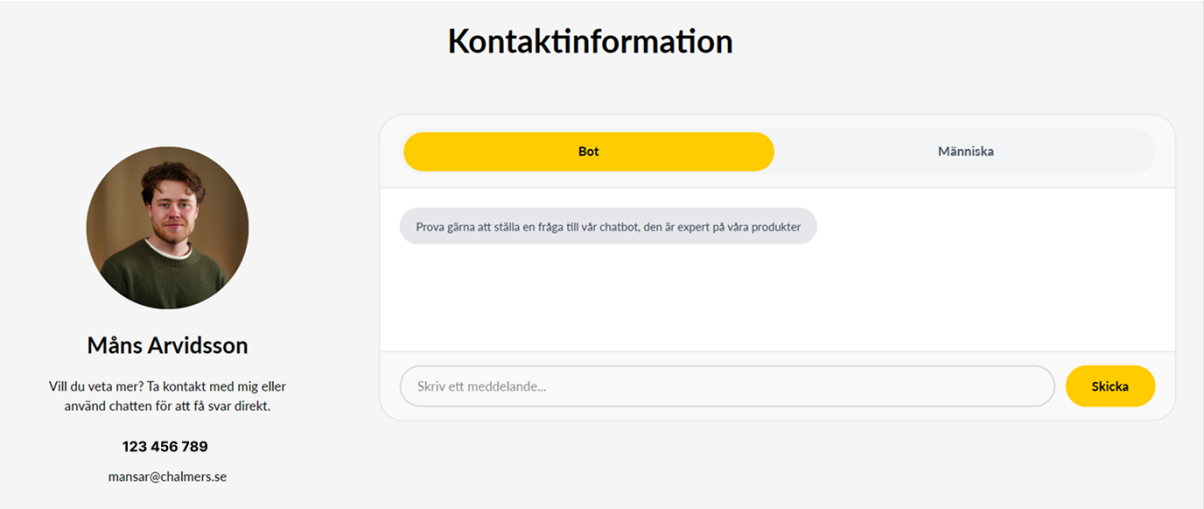


Figure 44: Contact Section

10 Discussion

The study successfully answered the first research question *What needs, requirements, and key parameters influence the B2B SaaS purchasing process for small to medium-sized companies?* through a user study that mapped out the needs, requirements and behaviors of SaaS customers. The second research question, *How can a user-centered digital sales experience be designed to facilitate complex B2B SaaS purchasing flows?* was addressed through a concept development and evaluation phase where a prototype was developed and user-tested. The prototype was designed with respect to principles of usability and UI design to create a clear interface with intuitive navigation and alternative purchasing flows. Theories of cognitive ergonomics was useful to consider the user's mental workload and the user experience perspective ensured that every feature served the users overarching goals.

Further, the prototype of the specific purchasing flow was anchored in a larger context by designing a complete service system concept which was evaluated with users via a service prototype. This approach enabled exploration and understanding of the complete service offering required to create a good SaaS sales experience.

10.1 Research Approach and Process

The Research through Design approach proved suitable for this study as the process of ideation and concept development generated valuable knowledge applicable in both industry implementation and future research. The iterative process covering a user study, concept generation, service design and evaluation generated valuable insights of user behaviors and a potential design solution.

The insights that resulted from the user study were mostly qualitative and this was also the aim of the study, to gather qualitative data regarding the needs and requirements of the customer. Qualitative data was deemed more appropriate in terms of the scope of the project as qualitative methods, such as in-depth interviews, are a good tool for eliciting user needs and requirements. Furthermore, due to the time limitations of the project, a qualitative approach would most likely yield the most useful data per interaction with the user.

The concept development resulted in a SaaS purchasing website prototype embedded in a broader service system. Testing the prototype with users allowed for a deeper evaluation of the user experience. Finally the complete service experience was evaluated via a service prototype which provided a strong indication of how the integrated solution would perform in a real-world setting.

10.2 Reflection on the User Study Execution

This section outlines of the discussion related to the user study. The limitations of the quantitative study, the qualitative rigor and the value of semi-structured interviews.

10.2.1 Limitations of the Quantitative Study

To find participants who are within the target group and that want to participate in the study can be difficult and time consuming, and this project was no different. Potentially because of the rather small target group and the lacking engagement for these type of questions within that group. Consequently, the survey reached 16 respondents which is insufficient to make claims of statistic significance. However, we argue that the questions were relevant and interpreted as intended by the respondents. In addition, each of our 16 respondents were in decision making positions in Swedish companies within the intended size range and therefore, provided us with indicative trends. The survey also fulfilled its secondary purpose, as it resulted in two participants for the qualitative study.

10.2.2 Data Saturation and Qualitative Rigor

Purposive sampling resulted in a total of nine participants of varying age, professional background, experience and domain knowledge. However each participant was still in the target group (individuals in decision making positions in small Swedish companies). Most of them had also engaged in system purchasing within the last year. Interviews and testing were performed remotely via Microsoft Teams which allowed a greater number and broader variation of participants. Collectively, indicating adequate sampling for the study.

Most session lasted between 45 and 60 minutes, yielding extensive interview material. However, there were some outliers. For example, two interviews lasted about 20 and 30 minutes each and were shorter due to time limitations of the participants and their previous purchasing experiences. The participants in question had purchase their solution/products through a third party which was outside the scope of the project. As a result questions regarding this particular purchasing experience were kept short. The

direct effect of these shorter interviews was that less data could be gathered. So, in this regard it would have been beneficial to interview more participants who had purchased products online themselves directly from the provider. Nevertheless, by the final interviews, data saturation was achieved as no new themes or user needs emerged, supporting that also the sample size was adequate for the study.

10.2.3 Value of Semi-Structured Interviews

Most of the data that was collected and analyzed during the project was relevant and facilitated the development of a prototype. However, due to the semi-structured nature of the interviews the participants would sometimes talk about things that were outside the scope of the project. As a result, the insights from the analysis needed to be sorted so that the relevant aspects were used during the development phase. Nevertheless, having a semi-structured approach was still valuable because it led to unanticipated insights into the user's behavior and needs. Furthermore, the interview guide helped to make sure that we at least covered the intended areas and were used to keep the general discussion relevant to the study.

10.3 Interpretation of Findings and Design Implications of the User Study

This section discusses the findings of the user study and what that implies for the design. How latent needs were uncovered, how buying preferences vary among users and the important need of understanding.

10.3.1 Uncovering Latent Needs through the Say-Do Gap

With some users, a clear difference emerged between the general attitude expressed during abstract interviews and the behavior captured during observations or reflections on actual experiences. This exemplifies the "Say-Do gap" where users stated preferences in theory differs significantly with actual actions in practice.

For instance, during interviews, some participants stated a strict requirement for personal contact to to feel safe before purchasing a system. Yet during observations or when asked about actual experiences, the presence of an industry-specific solution mitigated their perceived risk enough to allow them to complete the purchase entirely via self-service.

Having reflected on this during the analysis it became evident how valuable observations can be as a complement to the interviews for finding latent needs. Identifying these latent needs served as an important tool during the concept development because it encouraged

the exploration of new ways to satisfy the needs of the customers. As a result, further insights could be gained from user testing and advance the integration and combination of explored solutions.

10.3.2 Fragmented Buying Preferences among Users

The analysis indicated a broad variation in opinions and behaviors among the users. Within the target group, factors such as personal preferences, domain knowledge, organizational role and AI adoption seemed to have a large impact on how these behaviors were formed. For example, some users with higher AI adoption used AI as a search tool before even entering the webpage, while others did not. Later during testing, this split was also visible in how some users interacted frequently with the chatbot while others ignored it completely.

Another clear difference was the need for control. Some users sought to do as much as possible by themselves while others preferred to use the guide, interact with a chatbot or speak directly to a sales representative. This variation seemed to be a matter of personal preferences. Ultimately, these findings imply that there is no "one size fits all" in B2B SaaS sales. SaaS providers should seek to offer alternative buying processes and tools to accommodate different types of users.

10.3.3 The Need for Understanding

Personal contact emerged as a polarizing topic, users expressed completely contrasting opinions. When asked if personal contact was important in the SaaS buying process some users stated that it was unnecessary or even that they preferred not to speak to a sales representative referring to personality, efficiency or trust. In contrast, others valued personal contact highly, claiming they would never purchase a SaaS product without speaking to a sales representative first.

This variation initially seemed to be the strongest divider between older and younger participants, with the older group placing a higher value on human interaction. However, this discrepancy might not be strictly related to age, but rather to past experiences, domain knowledge, and organizational roles, all of which naturally change with age. As discussed in 10.3.1 there were conflicts between stated opinions and actual testing behaviors. This discrepancy led us to believe that the root user need is not personal contact itself, but rather the underlying need of feeling understood. Personal contact is merely one way to fulfill this need, which opened up the exploration of alternative solutions to satisfy the user's underlying need, desire to feel reassured and understood.

10.4 The Concept Development Process

This section outlines how the theories presented in the theoretical background were utilized during the concept development process. Furthermore, the implications of creating and testing a prototype and usability testing are discussed.

10.4.1 Application of Theory

One goal during concept development was to create a solution that is usable for the customer and that can support the needs of a first-time user. First-time buyers in smaller companies showcased a lower level of domain knowledge compared to customers who had purchased these systems before and who had more experience with these systems. Both types of users are relevant for online purchases and therefore the final solution needs to be usable for both. Theory regarding usability and cognitive ergonomics was used to guide the process of creating a usable solution.

Principles of affordance and signifiers were used to guide and show the availability of an online purchasing experience. Customers need to understand that they can purchase products directly on the website. To aid the creation of affordance and to establish signifiers both design principles of visual clarity and explicitness were used. For example, thoughts went into the wording and naming of certain functionality so that the user would understand the meaning behind the functions. In addition, considering visual clarity encouraged the exploration of how contrasting colors, the position of buttons and bold lettering could be used to highlight certain functionalities and navigational paths to increase the level of guessability.

During the usability tests the participants exhibited aspects of strong learnability and therefore it became crucial to work with the consistency between similar tasks. When there was a lack of consistency the participants became confused, which interrupted their process. As a result, users expected certain actions to be performed the same way and therefore consistency was crucial for enhancing the user experience and take advantage of the traits of learnability. Increased consistency will hopefully also benefit the attributes of memorability and re-usability to make it easier for customers to return to the website when buying additional products.

Implementing a chat interface with both were both a bot and a human can be contacted is a good example of how the design principle of appropriate transfer of technology was used to assist the user throughout their purchasing experience. The functionality of a chat interface has become well know as it is used widely and in different applications

form messaging apps to websites. During the evaluation stages users showcased a good level of understanding of the functionalities within the chat bot and were able to use it without complications.

Based on the needs and requirements of the customer it became clear what type of information they value. To accommodate this, it was important to consider how the structure of the website should look like in terms of how information should be organized to ensure that the user receives the most useful information first. Moreover, the aspect of prioritizing functionality and information also concerned information overload as too much information, no matter the relevance, could lead to confusion which needed to be mitigated. Therefore, considering how information and functionality should be structured became highly relevant in the final design as it needed to serve first-time buyers as well as those with more knowledge and experience.

Furthermore, it was important to consider the level of control the user experienced during the purchasing process. As mentioned before some customers have previous experience of purchasing the systems in question. Therefore, the goal was to create multiple ways of completing the process so that the user could decided themselves how much time they want to spend researching their options. By allowing the user to have more control over the purchasing process made it possible to spend between a few minutes and, in theory, however long necessary. All based on the preference of the customer.

Another important aspect of usable design is error prevention and recovery. Considering this aspect encouraged the addition of small but important design elements. For example, the user could find their way back by the breadcrumbs to go back to previous pages or to know where they currently are. Another element was to use feedback and questions to ensure that the user wants to proceed with there current action. This allowed the customer to think twice before, for example, clearing the shopping cart. Moreover, feedback was used to imply where the user can click and if an action was successfully completed such as adding products to the shopping cart. Once a product has been successfully added the shopping cart pops up showcasing its content.

Beyond Jordan's and Norman's design principles theory focusing on cognitive ergonomics was helpful when considering how the interaction with the final solution would affect the user. For example, theory regarding cognitive ergonomics facilitated finding the implications of cognitive load, as it provided an understanding into human limitations when it comes to receiving information. An improved understanding for the limitations of humans' mental capacity promoted design that considered the resources of the user.

In addition to facilitating concept and prototype development, cognitive ergonomics was useful to consider when designing the user tests to ensure that it was the interface and experience that was tested and not the mental capacity of the user.

Furthermore, considering mental models and similar designs in the world became important as users had quite clear pictures of what they expected an online purchasing experience to be, which were based on previous online purchasing experiences. Considering these previous experiences were important to ensure that the experience of digital SaaS sales matched the expectations of the user. The shopping cart, checkout, levels/tiers and packages are examples of elements that were designed to match the mental models of the users shaped by their previous digital sales experiences. Moreover, recognizing mental models promoted design solutions that increased the compatibility of the final design.

10.4.2 Creating and Testing a Prototype

Creating a functional prototype added much value to the project as the design concepts could be tested close to the intended context, which made the user testing more realistic because the user had the freedom to explore the prototype themselves. A crucial element that made the creation of a functional prototype possible was the assistance of LLM:s. Previously it was possible to create a functional prototypes by establishing links and paths manually in Figma, but this would have taken much more time. So, due to the time limitations of the project, it was decided to make use of the AI-tools available to take the prototype further compared to what would have been possible before. Furthermore, by implementing AI in prototype development, the functionality of the design concept could be brought closer to a realistic level of interaction. As a result, it was possible to simulate a more realistic setting during the user testing since complex functionality, such as the integration of real-time price calculations could be simulated. Using AI also accelerated prototype development as a larger number of design concepts could be integrated, which allowed the solution space to be expanded. Expanding the solution space allowed more design ideas to be explored, but it also required details to be considered to a higher degree because they stood out more as the prototype became more realistic.

Furthermore, creating a prototype with high fidelity exhibited an increased risk for focus to shift from general flows to specific details, as this type of feedback was easier to express for the user. This behavior could be countered by considering details early during development so that the user notices these less. Additionally, the tasks during user testing were designed to better suit the methods of evaluation.

Being able to test a prototype that was realistic to large extent opened possibilities such as testing it in a more realistic environment in form of the service prototype, which yielded valuable insights into how the final design should be integrated into the overall service offering. Nonetheless, the prototype had some restrictions. For example, placeholder information was used due to time limitation, but also due to limitations in domain knowledge for sales and financial systems. In addition, the prototype was tested in a limited time frame, completing the process of purchasing SaaS products can take anywhere from days to, weeks or even months. Being unable to completely recreate the real setting for the purchasing environment, it could result in users being less engaged compared to a real scenario. During prototype evaluations the user was observed to be less prone to find the exact information. As a result, timing and positing of information was evaluated rather than the information itself.

10.4.3 Usability Testing

Formulating tasks for the usability testing of the prototype proved to be more challenging than expected. The initial aim was to gather quantitative data such as the time and the amount of clicks it took to complete a task. However, after completing the first tests it became clear that it would be difficult establish any valuable insight from the quantitative data that had been gathered. This is because the data could differ significantly between users for the same task. It became apparent that the difference was due to how the user interpreted the complex tasks, which made it difficult to compare quantitative results. When the user received a complex task such as "Find information about the about the product for handling salaries and buy it", some user focused on speed while others would spend more time on research. As a result, depending on personality, engagement and prior experience the same task could successfully be completed in different ways.

To formulate a test protocol that would generate valuable insights into the usability of the prototype it became necessary to find a balance between giving directions and guidance and allowing the participants to navigate freely. Too specific instructions led to a more step-by-step process while a free task made for interesting results, but they were difficult to compare. For example, if a user was asked to find an accounting system, the experienced user tended to assume they needed to add more functionality based on previous experiences despite this not being clearly mentioned in the task. The less experienced users were more likely to find the cheapest solution while following the instructions more thoroughly. However, this scenario is most likely what would happen in a real setting. So, the results were difficult to compare but the user tests generated valuable qualitative insights that were used to improve the usability of the prototype.

Additionally, the quantitative analysis of the usability tests was impacted by a change to the scope of the project. After completing the first usability tests, it was decided that it would be interesting to test our solution in the larger context of the service system offering. The reason being that the user experience of the customer will be affected by more then the internet interface itself. To investigate how the website prototype would perform when it was integrated into the larger service offering service prototyping was implemented. As a result, the time for usability testing was compromised which resulted in fewer test with fewer participants. Thus, there is a need to perform more usability tests with additional users to strengthen the argument that it was difficult to draw conclusions from the quantitative data due to the task complexity. In addition, conducting more usability tests with a larger number of users would potentially enable a stronger quantitative analysis, which could result in better usability for certain parts of the solution.

10.5 The Service Design Development and Evaluation

This section discusses how Service Design was introduced to the project in order to integrate the specifically developed solutions into a broader service offering. Furthermore, the Service Evaluation, including its validity and relevance is discussed.

10.5.1 Integrating Specific Solutions within the Broader Service Offering

The concepts of Service Design were formally introduced in the study after the initial concept generation phase. While we had not yet framed the work as Service Design, it became apparent that we had already put a big emphasis on the larger context of the customer during the user study. Introducing Service Design in general, and the Multi-Level Service Design (MSD) framework specifically, provided structured methodological tools needed to capture this knowledge. Instead of focusing only at the core purchasing flow we had designed, the framework allowed understanding of the context around it. Ultimately, this helped effectively design the surrounding context to benefit as much as possible from the specific purchasing flow. In addition it also makes sure that the purchasing flow could be integrated into the complete service offering of the partner company.

Within this framework, the Customer Value Constellation (CVC) provided a clear understanding of the partner company's position within a larger system, providing a context for our specific solution. Additionally, the Service System Architecture and Navigation (SSA/SSN) allowed us to map out the architecture of the partner company's existing service offering. This helped understanding how the implementation of the specific solutions

would impact the system and what would be required to make it function, ultimately leading to an architectural and navigational redesign of the service offering. Utilizing MSD proved to be a valuable contribution, as it highlights where the proposed solutions fit in the larger perspective, effectively communicates the complexity service offering in a comprehensive way, and points out other areas that must be developed or adapted to maximize the benefits of the new solution.

10.5.2 Evaluating the Holistic Experience

Service prototyping allowed evaluation of specific solutions, in this case the purchasing flow, within the context of the larger service offering. Although the service prototype only evaluated a limited sequence of touch points, it enabled the participants to shift their focus beyond minor feature details and reflect on the entire service experience. Despite the brief 30 minute test duration, the combination of a structured scenario, high validity website prototype and active role playing successfully simulated the experience of engaging with a complex SaaS purchasing process. A process that normally would span days, weeks, or even months.

10.5.3 Validity and Relevance of Service Prototype Evaluation Results

The service prototype was tested with six users, consisting of both previous user study participants and new users. The participants domain knowledge ranged from extensive to almost none to avoid sub optimization for one of the groups. While the EXQ item scale effectively captured the participants overall views, some users appeared to have misinterpreted the negatively phrased questions, which potentially impacted the results.

Due to the inherent complexity of the B2B SaaS purchasing process, some users expressed that they would, "take more time to read the details in a real situation" or might be more hesitant to actually complete the purchase. This probably impacted the immediate testing experience. Another important factor is time. In reality, the complete process probably takes a lot more time depending on the specific situation. It might also be divided into multiple sessions with sufficient time in between. In this time perspective, re-usability becomes more important. This was not possible to test in only one session and the effects therefore remains unexplored. Furthermore, the service prototype covers only a limited portion of the complete customer journey. Most of the survey participants reported that testing the software prior to purchasing is very important. This was not accounted for in the service prototype. During data collection, alternative means of testing the software were brought up. It could be through a demo, test period or even a clickable prototype. This area was not further explored but would be interesting to learn more about. We

suspect that offering different means of testing could be optimal for different situations and personal preferences of the user. However, we cannot answer how these interactions should be designed specifically to contribute to the experience as a whole.

This suggests that more research is appropriate. Both, regarding testing the software and after implementation to see the effects of time in the real life context. Despite this, we argue that the results gives a good indication of how the proposed solutions would perform in a real-world setting.

10.6 Reflections on the Final Design

The final design of the purchasing flow within the broader context of the complete service offering proved to fulfill its purposes. It allows users from different backgrounds with varying knowledge and personal preferences to choose a path that satisfies their needs.

For some users, visiting the product pages, reading about the functionality and experiment with settings to find the most suitable solution gives them the desired level of control over the process. Other, often less experienced users can engage with the guide or interact with the chatbot to get a tailored SaaS solution despite having little domain knowledge beforehand.

The final design successfully satisfies different personal preferences regarding human interaction. Ensuring that personal contact is always available for the users that value this, but also facilitate a complete human interaction free sales process for the users that prefer not to engage with human. While consequently prioritizing what is most important to the users, which is transparency and clear information about functionality regardless of which purchase flow the user chooses to engage with.

10.7 Societal, Environmental, Contextual and Ethical Considerations

This section outlines the most important societal, environmental, contextual and ethical considerations of this project.

10.7.1 Environmental and Technical Implications

The proposed solution incorporates an AI-powered conversational interface. While this enhances user experience, it introduces environmental trade-offs due to the high computational energy and carbon footprint associated with running large language models. Implementing strategies such as self-hosting open-source models optimized for specific tasks or choosing smaller, fine-tuned parameters can significantly reduce the long-term environmental impacts of the usage.

10.7.2 Contextual Considerations

This study was conducted during an industry-wide transitioning towards generative AI which has implications for the SaaS sector. On one hand, AI enables accelerated prototyping and increased performance within products. On the other hand, the accelerating pace of AI-automation poses a threat to traditional SaaS business models as legacy workflows are increasingly replaced by AI.

10.7.3 Ethical and Societal Considerations

From an ethical standpoint, integrating AI into the purchasing journey places pressure on the provider which must take full accountability for accuracy and compliance of generated output.

Transitioning complex purchase flows into self-service environments fundamentally changes the traditional role of B2B sales representatives as they no longer have complete ownership over the sales process.

The proposed solution as a whole could also lead to a positive societal contribution as it makes complex purchasing processes accessible to a wider audience. It transforms traditional B2B sales cycles into a more transparent, honest and accessible process.

Research ethics were carefully considered and maintained throughout this study. Prior to each interview or evaluation session, participants were explicitly informed of their right to withdraw from the study at any point without consequence, as well as their right to request the immediate deletion of their data during or any time after the session.

Additionally, participants were assured that all collected data would be securely stored on servers in strict accordance with Chalmers University of Technology guidelines. Whenever a session required audio or video recording, explicit consent was obtained beforehand. Ultimately, all personal data throughout this study was collected, stored, and processed in compliance with the General Data Protection Regulation (GDPR).

10.8 Future Research and Work

The main focus of this study has been the user's needs and requirements. An appropriate next step would be to focus on the sales organization and the sales professionals to consider their needs and requirements and how to apply the knowledge from this study to create business opportunities.

While this study yielded a comprehensive qualitative analysis, the limited sample size prevented statistically significant quantitative conclusions to be drawn. This suggests that further quantitative research would be appropriate to support the qualitative findings of this study.

From an operational perspective, as a consequence of the of the complex service offering in the partner company, further work is required across multiple instances in the service architecture to realize the full potential of the proposed solutions. As an example, supporting backstage processes must be designed and the role of sales representative will be significantly impacted.

11 Conclusion

This study successfully fulfilled its overarching aim and answered the research questions. By investigating B2B SaaS purchasing for small to medium-sized companies, this work identified the needs, requirements, and key parameters that influence the purchasing journey (RQ1). These insights were directly utilized through a Research through Design approach to develop and validate a user-centered digital SaaS sales solution in the context of a broader service offering (RQ2).

A primary finding of this research is that B2B SaaS customers have varying needs and preferences. Because personal preferences and technology adoption vary, a SaaS provider should offer multiple alternative purchasing processes to cover a broad spectrum of user behaviors for searching, evaluating, and purchasing products. Further, the solution should enable a transparent process that allows customers to take control over their purchasing process and purchase what they actually need.

The systematic, multi-phased design process executed in partnership with Hogia proved sufficient to achieve this. An extensive user study allowed for the understanding of user needs and requirements, while concept development made it possible to translate these needs and requirements into specific concepts, which were then evaluated and developed with respect to usability and cognitive ergonomics. Finally, by expanding the scope into service design, the specific digital interface was successfully integrated into a broader, holistic service system and evaluated in the context of the complete service experience. The results of the service prototype evaluation indicate that the proposed solutions would perform well in a real-world setting. This structured process ultimately demonstrated how the needs and requirements of B2B SaaS users can be identified and subsequently fulfilled through the development of a specific solution within a broader service concept.

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Appendix

A Questionnaire

Description

Har du eller någon på ditt företag nyligen köpt in ett affärssystem, planerar ni att göra det eller håller ni kanske på med det just nu? Vi är två studenter från Chalmers tekniska högskola som genomför vårt examensarbete i samarbete med Hogia. Vi utforskar vilka behov och krav som uppkommer i samband med digitala köp av (nya) system och vill gärna ta del av dina erfarenheter. Vill du alltid prata med en säljare eller föredrar du en digital köpprocess? Vårt mål är att ta fram designriktlinjer kring den digitala köpupplevelsen med fokus på användarupplevelsen.

Section 1

1. Inom vilken bransch arbetar du?

- ☐ Advokat och Jurist
- ☐ Transport och Logistik
- ☐ Fastighet
- ☐ Byggindustri
- ☐ Revision/Redovisning
- ☐ Hotell och Restaurang
- ☐ Offentlig förvaltning
- ☐ Other

2. Vad arbetar du med? Vad är benämningen på din huvudsakliga roll?

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3. Hur stort är företaget/organisationen du arbetar för?

- ☐ Enskild firma
- ☐ Litet (1-9 anställda)
- ☐ Medel (10-50 anställda)
- ☐ Stort (50+ anställda)

4. Upphandlas alla era systemköp? Om nej ber vi dig att utgå från köp

som inte kräver upphandling i resten av enkäten.

- ☐ Ja
- ☐ Nej

5. Är du just nu eller har du någon gång varit med och köpt in något system?

- ☐ Ja
- ☐ Nej

6. Var det i ditt nuvarande arbete?

- ☐ Ja
- ☐ Nej
- ☐ Både i mitt nuvarande arbete och i en tidigare roll

7. Inom vilken bransch arbetade du och hur stort var företaget? Du får gärna svara flera positioner.

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8. Vilket/vilka sorts system? Du kan välja flera alternativ.

- ☐ Ekonomisystem
- ☐ HR/Personal/Lönesystem
- ☐ Transportsystem
- ☐ Fastighetssystem
- ☐ Bokslut/Skatt
- ☐ Revision/Redovisning
- ☐ E-signering
- ☐ Leveranskedja
- ☐ Projektledning
- ☐ Other

9. Välj det alternativ som bäst stämmer överens med hur köpprocessen har sett ut, du kan välja flera alternativ.

- ☐ Jag blev uppringd av en säljare

☐ Jag sökte upp systemet på deras hemsida och bokade en demo/ett säljmöte
☐ Jag köpte systemet digitalt men hade delvis kontakt med en säljare
☐ Jag köpte systemet digitalt, helt utan kontakt med säljare
☐ Other

10. Inställning till sälj-interaktion

Betygsätt följande påståenden enligt skalan:
1 = Instämmer inte alls, 2 = Instämmer delvis inte, 3 = Varken eller, 4 = Instämmer delvis, 5 = Instämmer helt.

a) Det är nödvändigt att prata med en säljare innan man köper ett system till ett företag
◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

b) Jag tycker att det är jobbigt att prata med säljare
◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

11. Vad är viktigt vid ett köp av system via digitala kanaler (ex. webbsida)?

Betygsätt följande påståenden enligt skalan:
1 = Instämmer inte alls, 2 = Instämmer delvis inte, 3 = Varken eller, 4 = Instämmer delvis, 5 = Instämmer helt.

a) Det ska tydligt framgå vad priset baseras på
◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

b) Det ska tydligt framgå vilka funktioner som ingår i systemet
◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

c) Det ska gå snabbt att köpa ett system
◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

d) Det är värdefullt att bli rekommenderad andra system som kan vara relevanta för mig och mitt företag
◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

e) Jag vill ha möjligheten att prova systemet innan jag köper det

◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5

12. Får vi kontakta dig angående medverkan i en intervju eller ett spännande användartest?

☐ Ja

☐ Nej

13. Ange din mail:

TACK FÖR DIN MEDVERKAN!

B Interview Guide

Inledning

- Berätta kort om projektet
- Varför vi gör det och varför vi ville prata med personen. Fokusera på att det är personens behov och krav som är det viktiga.
- GDPR, fråga om transkribering.
- All persondata kommer att sparas på Chalmersgodkända servrar.
- Anonymiserade intervjusvar kommer att delas med Hogia.

Demografi

- Bransch/branscher
- Företagets storlek
- Om företaget är nystartat

Breda/öppna/inledande frågor

- Vilka systemköp har du varit inblandad i?
- Vilken sorts system?
- Vilka system behöver ditt företag?
- Kan du beskriva den processen?
  - Tidsåtgång, antal kandidater?
- Hur började ni er sökning?
- Användes några verktyg/tjänster/konsult för jämförelser?
- Hade du någon favorit innan du påbörjade processen, varför? Påverkade det beslutet?

Vad är viktigt att ta reda på om ett system innan man köper det?
Betygsätt följande påståenden enligt skalan:
1 = Instämmer inte alls, 2 = Instämmer delvis inte, 3 = Varken eller, 4 = Instämmer delvis, 5 = Instämmer helt.

a) Pris
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

b) Funktionalitet

☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

c) Integrationer
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

d) Leverantörens datahantering
☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

e) Leverantörens anseende
☐ 1 ☐ 2 ☐ 3 ☒ 4 ☐ 5

f) Andras erfarenheter
☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

Andra aspekter:

- Hur skulle du gå till väga för att ta reda på den informationen du söker?
- Använder du AI, kollar hemsidor, går på mässor, ringer och frågar?
- Vad är det första du letar efter på systemleverantörens hemsida?
- Hur mycket eller vilken typ av information tar du reda på innan du kontaktar säljare/gör ett köp?
- Hur ser beslutsfattandet vid ett systemköp ut i ditt företag?
  - Vilka kollar upp information, är det flera olika?
  - Fokuserar de på olika saker? Vad?
  - Vem fattar beslutet?
- Hur värderar du den personliga kontakten?
- Hur känner du inför att ge ifrån dig uppgifter, som din mail, för att få tillgång till en demo eller produktvisning?
- Hur ställer du dig till att skapa ett gratiskonto på hemsidan?
- Skulle du föredra att köpa en paketlösning eller få välja fritt själv?
  - Om paketlösningen var anpassningsbar skulle detta ändra din inställning?
- Samlar ni in information innan ett köp och i så fall var sparar ni detta?

Test - Prisjämförelse

Du har börjat jobba på ett nytt företag och har fått ansvaret för att köpa in ett eller flera program som täcker bokföring, fakturering, lön.

Din uppgift är att ta reda på priset för två olika leverantörer: Fortnox och Spiris.

Fakta om ditt företag:

- Anställda: 15
- Antal som ska arbeta med bokföring: 2
- Antal som ska arbeta med lön: 2
- Antal som ska arbeta med fakturering: 1
- Lite drygt 50 kundfakturor per månad
- Potentiellt be om att lägga till tidsrapportering

- Vad kännetecknar en smidig upplevelse för dig? Tänk B2B inte B2C.
- Vad får du för intryck av de här köpflödena?
  - Tryggt, köpsug, smidigt, osäkert, mödosamt...
  - Vad är det som ger dig det intrycket?

Aspekt - Fortnox

Betygsätt följande påståenden på en skala från 1 till 5.

a) Hur säker känner du dig på att du har lyckats hitta det du sökte och att det täcker behoven för ditt företag?
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

b) Hur säker känner du dig på att du hittat den bästa dealen för dig?
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

c) Hur säker känner du dig på att du hittat det priset som ni kommer att betala?
☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

Aspekt - Spiris

Betygsätt följande påståenden på en skala från 1 till 5.

a) Hur säker känner du dig på att du har lyckats hitta det du sökte och att det täcker behoven för ditt företag?
☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

b) Hur säker känner du dig på att du hittat den bästa dealen för dig?
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ 5

c) Hur säker känner du dig på att du hittat det priset som ni kommer att betala?
☐ 1 ☐ 2 ☒ 3 ☐ 4 ☐ 5

- Om det kommer upp frågor under tiden, hur vill du helst få svar på de? Ringa, maila, chatbott, kolla upp informationen själv?
- Vilken tycker du är mest förtroendeskapande.

C Interview Guide for Expert Interviews

Frågeformulär

Syfte: Ta reda på lämplighet för digital försäljning av specifika produkter och hur de hänger ihop.

Demografi
Namn: .....
Arbetar med produkter: .....

Produkter

- Vilka produkter ansvarar ditt bolag för?
- Hänger de ihop på något sätt?
- Vad är skillnaden på dem?

Produkt A

- Vad används produkten till?
- Viktiga funktioner
- Hur avancerad är produkten?
- Har produkten moduler, vilka?
- Vilka steg krävs för att användaren/användarna ska bli självgående? Ungefär hur lång tid tar det?
- Vilka funktioner särskiljer produkten på marknaden?
- Vilka konkurrenter finns det på marknaden?
- Vilka andra produkter interagerar den här produkten vanligtvis med?
- Viktiga integrationer för den här produkten?
- Andra viktiga Hogiaprodukter?
- Vart ligger det största värdet? Produkten, ekosystemet eller annat?
- Lämplighet för att köpa digitalt. Varför, varför inte?
- Tror du det finns skillnader mellan olika branscher?
- Hur betalar kunden?

Säljfrågor A

- Vilka branscher riktar sig produkten mot?
- Är det rimligt att använda sig av digitala köp i dessa branscher?
- Avgörande aspekter i en köpprocess:
  - Hur viktig är den personliga relationen, i förhållande till andra Hogiaprodukter?
  - Skiljer det sig mycket mellan olika kunder?
  - Finns det kunder som vill ha minimalt med relation?
- Hur går köpet till? Krävs upphandling?
- Hur betalar kunden för produkten? Årsvis, månadskostnad?
- Vilka paket erbjuds/planeras att erbjudas? Pris?
- Vilken information behöver utvinnas för att kunna erbjuda kunden rätt paket och rätt pris?
  Ex: antalet anställda, bransch, planerade användare, nyckelinteraktioner per månad, osv...
- Får man mängdrabatt om man köper flera produkter?
- Hur hjälper man kunden att förstå vilka produkter, moduler och paket som är lämpliga för just denne?
- Vilka andra integrationer och Hogiaprodukter brukar kunden vara intresserad av i samband med köp av den här produkten?
- Vilka konkurrenter erbjuder liknande system på marknaden?
  - Hur skiljer de sig från Hogia?
  - Ser målgruppen likadan ut eller skiljer den sig?

D Usability Test Protocol

Användbarhetstestprotokoll

Hej och tack att du ville ställe upp på vårt användbarhetstest av en första prototyp av Hogias hemsida där ett system för digital försäljning har implementerats. Under testet kommer du att få instruktioner om att utföra ett antal uppgifter för att vi ska kunna utvärdera användbarheten av vår lösning, samt användarens beteende när de interagerar med systemet.

(Berätta kortfattat om projektet om testpersonen inte deltagit tidigare i vår intervjustudie.)

För att vi ska kunna analysera data från detta test hade vi gärna velat spela in ljud och bild. Är det okej att vi gör detta?

All data som används och spelas in kommer endast att sparas på Chalmers godkända servrar och kommer att raderas när projektet är slutfört. Dock kommer data och resultat från testerna att presenteras i vår rapport som kommer att publiceras och vissa data kommer att delas med Hogia. Innan detta sker kommer all data att anonymiseras och kommer inte innehålla några personuppgifter som gör att den kan kopplas tillbaka till just dig enligt riktlinjerna för GDPR.

Uppgift 1

Du har börjat jobba på ett nytt företag och har fått ansvaret för att köpa in ett eller flera program som täcker bokföring, fakturering och lön. Ditt företag har bestämt sig för att köpa system från Hogia och har bett dig inhandla dessa från deras hemsida.

Din uppgift är att ta reda på priset för dessa program för att sedan lägga en beställning som innehåller de system som ditt företag behöver.

Fakta om ditt företag:

- Anställda: 15
- Antal som ska arbeta med bokföring: 2
- Antal som ska arbeta med lön: 2
- Antal som ska arbeta med fakturering: 1

Frågor kring upplevelsen

Prototyp 1	**1**	**2**	**3**	**4**	**5**
Hur säker känner du dig på att du har lyckats hitta det du sökte och att det täcker behoven för ditt företag?					
Hur säker känner du dig på att du hittat den bästa dealen för dig					
Hur säker känner du dig på att du hittat det priset som ni kommer att betala?					

1. Vad får du för intryck av det här köpflödet?
    a. Tryggt, köpsug, smidigt, osäkert, mödosamt...
    b. Vad är det som ger dig det intrycket?
2. Vad var det svåraste med uppgiften?
3. I vilket skede uppstod flest oklarheter kontra när kände du dig som mest säker?

Uppgift 2

Jämförelse mellan köpguide och välj funktion

Uppgift 3 – Din Hyresvärd

1. Du har hört talas om att Hogia har ett bra system som heter DinHyresvärd. Leta upp sidan.
2. Kan du ta reda på lite mer information om Publicering på HomeQ?
3. Vad behöver du välja för att ”Egen grafisk profil” ska ingå i din produkt?
4. Nu funderar du på om Hogia har något personal- eller löne-program som kan användas på ett smidigt sätt tillsammans med DinHyresvärd. Ta reda på om det finns något erbjudande.

Uppgift 4 – Hitta till tidrapportering

1. Du behöver ett eller flera program för att hantera lön och tidrapportering. Kan du hitta det?
2. Du har 40 anställda men endast 20 behöver tidsrapportera. Kan du ta reda på vad det kommer att kosta per månad?

Uppgift 5 – Jämför OpenBusiness erbjudandena

1. Vad är skillnaden på de olika nivåerna: standard, plus och enterprise?
2. Kan du ta reda på mer information om Periodisering?
3. Välj det billigaste erbjudandet som ändå stödjer anläggningsredovisning.
4. Du vill också ha stöd för flera valutor och totalt 2 administratörer ska ha tillgång till programmet. Kan du ta reda på vad det kommer att kosta?

E Quantitative Data from the Usability Testing

Table 5: Combined Usability Metrics across Four Distinct Testing Sessions

Participant / Source	Task Description	Time (s)	Errors	Help Interv.	Clicks	Success
Participant 1 (Usability Test 1.png)	Task 1 - Buy systems for salary, invoices and bookkeeping	519	1	4	30	–
	Task 2 - Find and interaction with modules for DinHyresvärd	103	0	0	8	–
	Task 3 - Find Lön & Tidsrapportering	132	1	1	13	–
	Task 4 - Compare offers for OpenBusiness	120	0	0	18	–
Participant 2 (Usability test 2.png)	Task 1.1 - Find a solution for an accounting firm with e-signature	210	1	3	13	Yes
	Task 1.2 - Configure a solution with "redovisning light" & e-signature	140	1	2	15	No
	Task 2.1 - Buy systems for salary, invoices and bookkeeping	207	0	0	18	No
	Task 2.2 - Applying the "köpguide"	122	0	0	39	Yes
	Task 3 - Compare offers for OpenBusiness	107	1	1	8	Yes
Participant 3 (Usability Test 3.png)	Task 1 - Find Lön & Tidsrapportering	180	–	–	–	Yes
	Task 1.1 - Complete guide	500	–	–	–	Yes
	Task 1.2 – Review and adjust content	1200	–	3	–	–
Participant 4 (Usability test 4.png)	Task 1 - Find Lön & Tidsrapportering	180	1	2	10	Yes
	Task 2 - Determine monthly price given specifications	105	0	2	22	Yes
	Task 3 - Buy bokföring, fakturering & lön	260	2	3	20	Yes
	Task 4 - Buying guide (same instructions as task 3)	135	2	1	38	Yes
	Task 5.1 - Find DinHyresvärd	10	0	0	4	Yes
	Task 5.2 - Find more info about HomeQ	10	0	0	1	Yes
	Task 5.3 - Choose package based on certain functionality	22	0	0	2	Yes
	Task 5.4 - Personal/lön program to combine	20	0	0	2	Yes

F AI Prompt Example

Implementation of Choosing by Function

General Idea
I want you to implement a new function to the website where the customer can find a suitable offer by first choosing the functionality they require and wanting to purchase. The overall idea is to create boxes in the same style as in section 2 on the homepage where the different boxes represent an area of functions such as “Ekonomi” and “HR och Lön”. They can then find the right area and click on it so that a dropdown menu opens. Here I want the already existing boxes to expands downwards showcasing the different functions such as “Bokföring” and “Periodisering”. Here the customer can click and choose the functions they want to be able to do, and ones they have clicked on a function they should receive feedback by changing the color inside the area of the button for the function.

Prompt: /kop-hogia/valj-funktioner

Choose functionality page

Global page styles.
Use the attached designs as guidelines and implement the changes to the current page called valj-funktioner. Apart from the top bar the page can be seen as a blank canvas so do not keep anything from the old design.

Canvas Width: 1440px.

Typography:
Lato (Bold for all headers and UI actions; Regular for body text).

Color Palette: Brand Yellow: #FFCC00; Background Grey: #F5F5F5; White: #FFFFFF; Sub-header Grey: #5F6368; Success Green: #28A745; Inactive Grey: #D1D1D1.

Navigation: Include the persistent Hogia Top Bar from the main template.

Section 1: Hero (Brand yellow: #FFCC00 background). Height: 700px. Layout: 50/50 horizontal split. Vertical padding: 25px top/bottom.

Left Column (Content):

- **Header:** “Välj funktioner” (Lato Bold, 64px, Black).
- **Sub-header:** “Utbud utifrån dina behov” (Lato Bold, 24px, #5F6368).
- **Description:** Osäker på vilka program du ska välja? Här kan du välja vilka funktioner du behöver först för att sedan bli presenterad vilka program som kommer bli relevanta för just dina behov (Lato Regular, 20px, Black)
- **Actions:** Two side-by-side primary buttons. Style: #FFCC00 background, Black text. Labels: “Alla produkter” and “Branschlösningar”

Right Column:

- Placeholder image frame aligned with the text block.

Section 2: Boxes with the different areas (Grey Background #F5F5F5) Layout: Vertical padding: 25px top/bottom.

Boxes: Three boxes (Ekonomi, HR & Lön, Redovisning).

- **Styling:** The boxes should be 500px wide and 300px high with 30px rounded corners. Their background should be white (#FFFFFF). Each box should have a stroke on the outside with weight 5. The space between each box should be 25px. Each box should have a vertical padding; top: 80px and bottom: 30px. Horizontal spacing should be 26px on each side.
- **Text:** The header for each box should be left aligned above the description. The first header is “Ekonomi”, and then “HR & Lön” and then “Redovisning”.
- **Description:** Placeholder Lorem Ipsum text (Lato Regular, 16px, Black).
- Each box should also have a round button to the right of the description to open the drop-down menu (se styling in the design files)

Interaction:

- While hovering over the boxes, the stroke weight should increase to 10 and they should have a small drop shadow underneath.
- When clicking on the button, the box should expand downwards to become the drop-down menu.
- Each drop-down menu should show the functions for each area.
- When choosing a function, they will click on it.

Design of clickable functions:

- Each function is contained in a box with white background and a grey stroke

(808285) with weight 4 on the inside. The containers should be 460px wide and 70px high. The text inside should be lato bold 20px and left-aligned.
- On the left side there should be a circle (30 × 30px) with a white background and a grey (808285) stroke weight 3 on the inside.
- The padding should be 20px top/bottom and left/right.
- The spacing between each container should be 20px and they should be listed vertically within the boxes.

Function interaction:

- When the dropdown menu is open the user should be able to click on each function
- The functions that have been chosen should switch their background color to yellow (FBE489) and the background color of the circle should become grey (808285).
- When one or many functions has been chosen a button should light up in the bottom right corner of section 2 with the text "Nästa"

Final step:

- Ones the button "Nästa" has been clicked the user should come to a page where the programs that are relevant should be listed.
- The products that are relevant are those products that are listed and contain one or more of the functions that the user has chosen.

G Service Prototype Guide

1. Story and background

Det här är en Service prototyp, det innebär att detta är en simulering av hela upplevelsen av att uppsöka, förstå och beställa programvaror av Hogia. Försök att bete dig precis som du hade gjort i verkligheten, fundera över hur du hade gått tillväga om du stöter på en fråga till exempel. I det här testet har du tillgång till din telefon och din dator med Hogias webbsida. Du får använda verktygen till att söka information, ringa eller skriva meddelanden eller maila på vilket sätt du vill. Kom ihåg att alla uppgifter på hemsidan går att använda för att interagera med det fiktiva företaget i det här testet men ingenting är på riktigt.

Kom ihåg att vi testar upplevelsen, inte dig. Du har rätt att avbryta testet när du vill.

Scenario: Brytpunkten för Grönskans Bostäder

Du har precis tagit över som VD på det familjeägda fastighetsföretaget Grönskans Bostäder som äger 90 lägenheter fördelade på 8 fastigheter och två affärslokaler.

- Lägenheterna varierar i storlek men är i snitt 60 kvadratmeter stora.
- Affärslokalerna ligger på 100 kvadratmeter vardera.

Företagets anställda

- **Teamet:** Du och en kollega sköter allt från ekonomi och hyreskontrakt till uthyrning och kundtjänst. Ni har tre vaktmästare som är duktiga på hantverk men hatar pappersarbete.
- **Sommaren:** Ni tar in två sommarjobbare för att klippa gräs och måla staket.

Eftersom den tidigare ägaren skötte allt i Excel är det mesta ganska rörigt i företaget, speciellt för dig som nytillkommen VD i en bransch du inte har någon tidigare erfarenhet av.

Vid din första genomgång inser du att:

- Hyresaviseringar släpar efter.
- Felanmälningar kommer in via SMS till en telefon som ingen har koll på.
- Underhållsplanen existerar bara i huvudet på vaktmästaren som har börjat hota med att han vill gå i pension snart.

Du inser snabbt att för att rädda lönsamheten och din egen nattsömn behöver du en digital lösning som samlar allt på ett ställe och du behöver få bättre koll på företagets ekonomi. Mycket tid går åt till att svara på frågor som "när kranen ska lagas" och vaktmästarna glömmer ofta att rapportera in materialkostnader för småjobb vilket gör att bolaget tappar pengar.

I en annons på Instagram såg du att ett företag som heter Hogia verkar erbjuda lösningar. Du surfar in på deras hemsida för att ta en närmare kik på saken.

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2. General information search *(Uppgift)*

Först vill vi att du tar reda på om Hogia erbjuder några lösningar som kan tänkas passa dig.

Ta den tid du behöver och notifiera testledaren när du känner dig färdig med det här

steget.

---

3. Story, decision

Bra jobbat, du har identifierat vilka system som kan passa dig, nu ska du dela det med dina anställda/kollegor.

Nästa dag är det morgonmöte och du tar en kopp kaffe med din kontorskollega Erik som tillsammans med dig sköter all administration och ekonomi. Efter en stund trillar vaktmästargänget in och mötet kan börja.

Du berättar att det snart ska bli en stor ändring på företaget och att alla processer ska bli effektivare med hjälp av digitala system, ekonomin, administrationen och till och med underhållsplaneringen!

Den lilla gruppen svarar positivt på ditt förslag men det uppkommer en del frågor. Den livserfarne vaktmästaren Johan ifrågasätter om ett system verkligen ska kunna hålla koll på allt? Du ber honom skriva ner alla viktiga funktioner han kan komma på.

Kontors-Erik börjar också fundera, har systemet verkligen stöd för XX och hur ska löneutbetalningarna fungera, ska han äntligen få slippa att skicka ut de manuellt? Även Erik får i uppgift att skriva ner sina krav.

---

4. Specific information search *(Uppgift)*

Du får med dig Eriks och Johans lista, nu är din uppgift att ta reda på om du kan uppfylla alla deras krav och vad hela kalaset kommer att kosta.

Om allt verkar okej har du fått "klartecken att gå vidare med köpet", varför det nu skulle behövas, du är ju trots allt VD...

Erik och Johans lista:

- Finns det stöd för XX?
- Klarar systemet A, B och C?
- Kostar det mer än 15 000 kronor i månaden?

Påminnelse om företagsinformation:

- 90 lägenheter fördelade på 8 fastigheter och 2 affärslokaler.
- Lägenheterna varierar i storlek men är i snitt 60 kvadratmeter stora.
- Affärslokalerna ligger på 100 kvadratmeter vardera.
- 4 permanent anställda + dig själv (5 totalt).
- 2 nya sommarjobbare varje sommar.

---

5. Place order and purchase *(Uppgift)*

[Utför testuppgiften baserat på den insamlade informationen.]

H Service Evaluation Questionnaire

The experience was evaluated in the four dimensions of the EXQ framework: *Product Experience, Moments-of-truth, Outcome Focus and Peace of mind*. Respondents rated their experience on a seven point scale (1=strongly disagree, 7 = Strongly agree). In the following section the items are grouped by dimensions but they appeared in a different order in the survey. The item scales were followed by three free text questions.

Product Experience

- I had the opportunity to compare and choose between different alternatives.
- It did not feel like Hogia understood what I needed.

Outcome Focus

- I found a solution and was able to verify that it met my needs without much effort.
- Once I knew what I wanted, I could complete the purchase quickly and seamlessly.

Moments-of-Truth

- I received access to the information I needed during the process.
- I received access to information at the right times during the process.

Peace of Mind

- Based on this experience, I have high confidence in the company.
- Overall, the process felt simple and smooth.
- I experienced a sense of control throughout the entire process.

Open-ended questions

- Did you feel like abandoning the process at any point?
- What prompted you to complete the process?
- What had the greatest impact in your experience?

I Requirements List

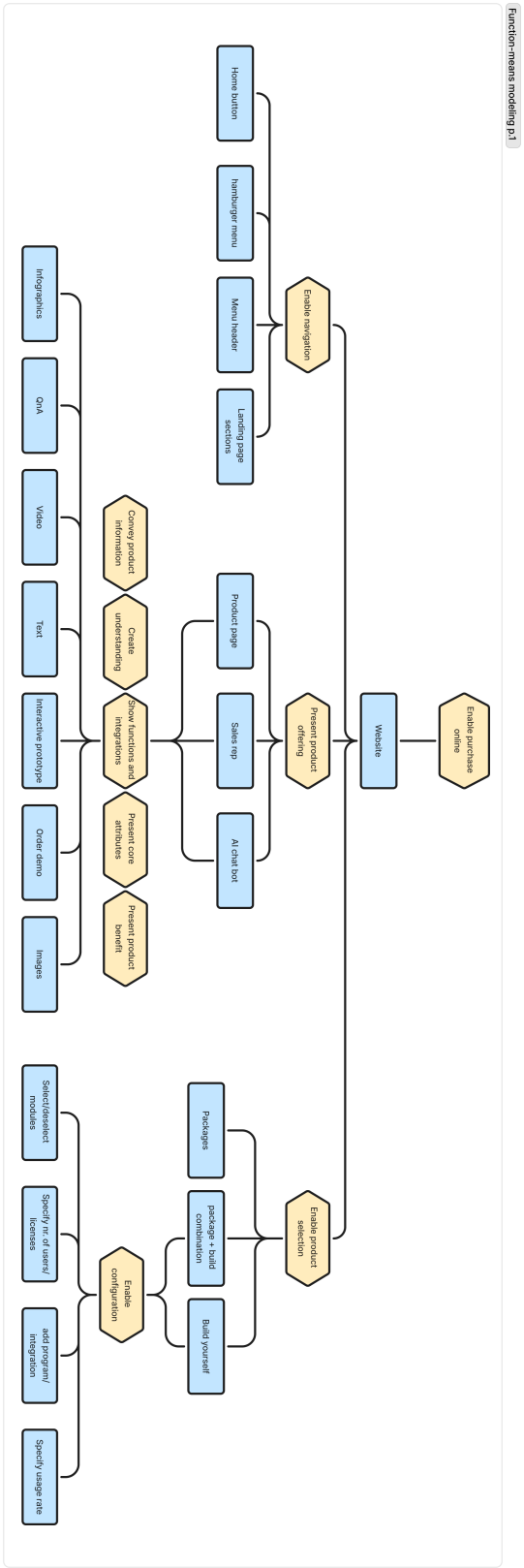
Nr	Criteria/Function	Requirement/Desire	Weight	Justification	Evaluation Method	Target Value	Level
1. User							
1.1	**Sincere and transparent purchase process**			User Experience, the solutionshould clearly indicate the status, price and content			
1.1.1	The software should clearly communicate the total price	R	-	Price awareness, honest business	UAT, Likert scale	≥ 4/5	Webpage
1.1.2	The software should clearly communicate the price components	R	-	Price awareness, honest business	UAT, Likert scale	≥ 4/5	Webpage
1.1.3	The software should clearly communicate potential future changes in price	R	-	Price awareness, honest business	UAT, Likert scale	≥ 4/5	Webpage
1.1.4	The software should clearly communicate the contents of the product(s) to be purchased	R	-	To ensure the user is aware of what they are buying	UAT, Likert scale	≥ 4/5	Webpage
1.2	**Efficient purchase process**			User Experience, to match existing competing solutions time efficiency			
1.2.1	Minimum required clicks to reach checkout	W	3	Matching the most efficient competitor	Test	3 clicks	Webpage
1.2.2	Minimum required time to complete purchase	W	3	Matching the most efficient competitor	Test	5 minutes	Webpage
1.3	**Appropriate UX and UI**			User Experience, the solution should be adhere to existing UX and UI theories			
1.3.1	The software should be easy to navigate	R		The user should be able to find what they look for	UAT, Likert scale	≥ 4/5	Webpage
1.3.2	The software should indicate purchasing status	R		The user should know where they are currently in the process	UAT, Likert scale	≥ 4/5	Webpage
1.3.3	The UX should communicate the company values and principles of Hogia	W	4	The user should recieve the same or close to the same experince while purchasing online as when completing an order over the phone	UAT, Likert scale	≥4/5	Webpage

Nr	Criteria/Function	Requirement/Desire	Weight	Justification	Evaluation Method	Target Value	Level
1.4	**Flexible purchase and offer**			User Experience, the solution should offer multiple alternative purchase flows			
1.4.1	Offer more than one alternative for billing period	W	3	The user should be able to select different periods for billing in order to lower purchase barriers	binary	true	Product offer
1.4.2	Flexible product offer relevant to the needs of different users	W	5	The user should not feel like they are forced to pay for features they are not interested in	UAT, Likert scale	≥ 4/5	Product offer
1.5	**Support decision making**			User Experience, the solution should offer assistance that supports decision making			
1.5.1	Comparable product offering	R		The user should be able to compare differences in product offerings, e.g. the content of different plans	binary	true	Webpage
1.5.2							
1.6	**Communicate understanding and safety**						
1.6.1	The user should feel that their needs are understood	D	5		UAT, Likert scale	≥ 4/5	Service System
1.6.2	The user should feel safe during the process	D	5		UAT, Likert scale	≥ 4/5	Service System

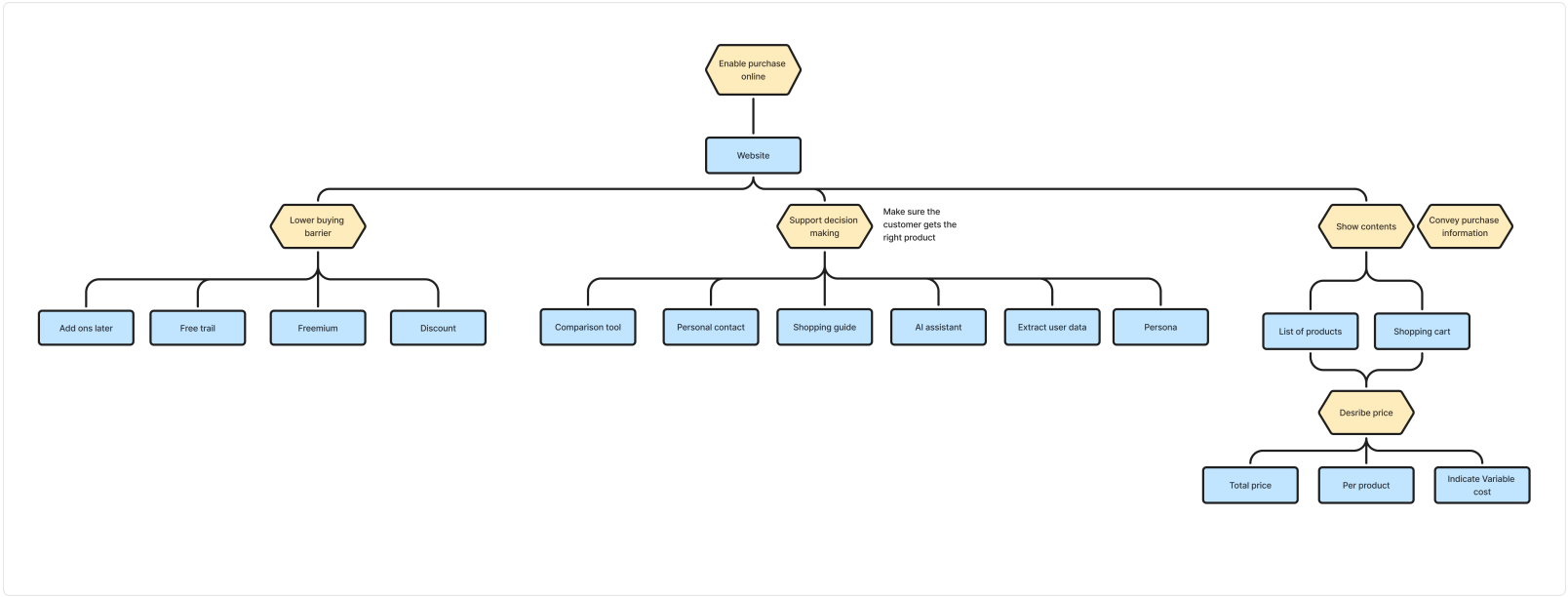
Nr	Criteria/Function	Requirement/Desire	Weight	Justification	Evaluation Method	Target Value	Level
2. Legal							
2.1	**Rules and regulations compliance**			**Law**			
2.1.1	WCAG 2.1	R		To ensure compliance with EU directives regarding accesibility	legal assessment, checklist	-	Website
2.1.2	GDPR	R		To ensure compliance with EU data protection law	legal assessment, checklist	-	Website
2.1.3	Clearly stated terms of purchase	R		To ensure compliance with swedish e-commerce law	legal assessment, checklist	-	Website
2.1.4	Correct pricing information	R		Consumer law compliance	legal assessment	-	Website
add above this line							
3. Technical							
3.1	**Technical feasibility**						
3.1.1	The software should be possible to build with respect to the limits of the partner company's technical environment	R		Ensure that the software is possible to build and use for the partner company	Engineering assessment	True	Website
3.1.2	The software should be possible to maintain in the partner company's technical environment	R		Ensure that the software is possible to maintain for the partner company	Engineering assessment	True	Website
3.2	**Digital purchase process**						
3.2.1	Enable fully digital purchase process	R		allow the user to make a digital purchase without human interaction if not desired	Assesment, binary	True	Service System
3.2	The purchase process should be safe	R		The technical solution must ensure a safe and trustworthy purchase process with minimal risk of data leaks or faulty purchases	Engineering assessment, binary	True	Service System

Nr	Criteria/Function	Requirement/Desire	Weight	Justification	Evaluation Method	Target Value	Level
4. Business							
4.1	**Strategic alignment**						
4.1.1	The software should incorporate the brand identity of the partner company	W	5	The styling and feel of the software should be aligned with the partner company	Brand alignment assessment	True	Software
4.1.2	The software should contribute to the strategic goals of the partner company	W	5	The software should aid the report in highlighting potential flaws in the current strategy and offer an alternative strategic approach based on the findings of the study	-		Service System

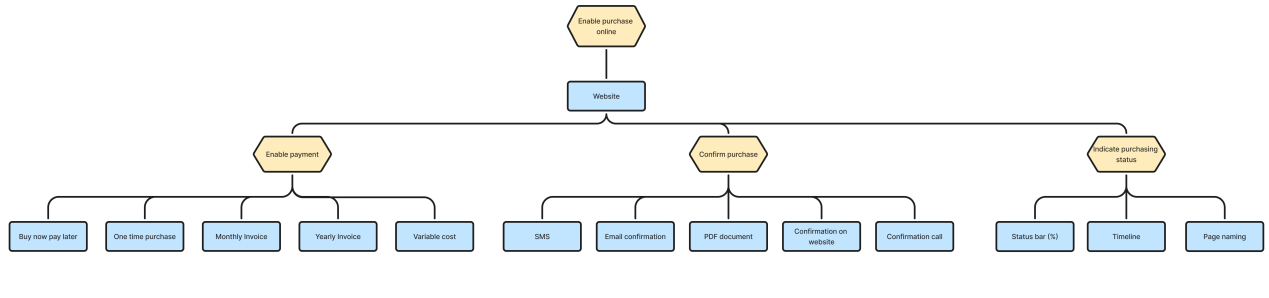
J Function-Means Model



Function-means modeling p.2



Function-means modeling p.3



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