"I'm center stage!" - A study of service offerings from a consumer's point of view

Master’s thesis within Informatics, 30 credits

Author: Jonas Mathys
Tutors: Andrea Resmini
       Jochen Wulf

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Abstract

The purpose of this study is to learn more about the consumers' interaction with companies over different channels. It is conducted from a consumer's point of view, but the insights gained through this study will help companies to design and build better services. In this context, the concepts of User Experience, cross-channel and Customer Experience provide a theoretical framework. The new approach in this study is to combine the three concepts, their framing and their identified design elements. This conceptual framing contains a list of design elements with a positive influence on the service experience.

However, the conceptual framing provides no answers on how to apply these design elements. In the methodology part, possible approaches are discussed. The heuristic evaluation used in the two case studies is a method that takes all three concepts from the theoretical framework into account. With the first heuristic, it is possible to analyze single touchpoints like User Experience demands. The following heuristics are used within a cross-channel context. Finally, the last heuristic is responsible for the holistic perspective from Customer Experience.

The case studies are then conducted to verify the applicability of the design elements with the heuristic evaluation. The findings of the study were positive and suggest that the heuristic evaluation is a suitable method to analyze a company's service offerings. Additionally, the case studies lead to results which are useful for the two companies (Migros and Nestlé). The overall conclusion of this study is that the three concepts complement each other very well. User Experience is responsible for well designed touchpoints. Cross-channel expands the perspective on ecosystems and evaluates how the touchpoints operate together. Finally, Customer Experience analyzes the whole company and its touchpoints on a heuristic perspective.
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1 Introduction

The first chapter consists of the introduction, which outlines outlining the problem, purpose, research questions, structure, delimitations and definitions. It starts with a broad problem definition, then focuses on specific aspects of the problem and gets more precise with the definition of the two research questions. The delimitations exclude certain concepts and research areas which are not part of this study. Finally, definitions for important concepts provide a common language and consistent way of understanding them.

1.1 Problem

We live in a time where companies often cannot differentiate themselves from competitors through their product or distribution processes (Pine & Gilmore, 1998). Both are commoditized and even access to information is no longer a competitive advantage that can be defended against competitors over years. Information technology (IT) has changed a lot in the business world but also in people's everyday lives. The market research company Forrester claims that we are now in the “Age of the Customer” where companies should strive to increase customers’ experience of interacting with them. (Bodine, 2013)

With a range of new technologies, consumers are now able to interact with companies in various ways. The consumer has become more independent, flexible and powerful (Leimeister, Österle & Alter, 2014). The competitor's service is often only one click away. This raises the requirements and successful services should be context adaptive, personalized, available anywhere, in realtime and over different channels and devices (Leimeister, Österle & Alter, 2014; Penkert, Eberwein, Salma & Krpanic, 2014).

Multichannel environments offer the possibility of performing the same service over different channels. These might include the sales counter, website, phone, email, social media presence, e-commerce solutions or other mediums between the company and customer (Dandridge, 2010). The Internet and the Web have especially simplified many activities in daily life. However, there is still a huge challenge in aligning these different channels to meet customer expectations and to improve the user experience (Resmini & Rosati, 2011).

In our digital society, companies should understand that customers are at the center of everything. Their preferences and requirements are crucial for developing innovative solutions (Leimeister et al. 2014). User-, use- and utility-centricity (also called the 3 U’s) is a concept that puts the requirements of users or customers at the centre of attention (Brenner et al. 2014). Use-centricity promotes the importance of the context in which a service is used. The latter, utility-centricity, wants to maximize the added value for all stakeholders. The 3 U’s concept is related to the term User Experience, a field of practice which focuses on the way a service or product works when someone gets in contact with it (Garrett, 2011). Even though many companies accept the idea and importance of User Experience and user-, use- and utility-centricity, they still don't understand how difficult it is to implement and fail to deliver a good experience to their customers (Dandridge, 2010). User experience goes further than just providing a functioning and good looking application. It also includes the customers’ feelings and excitements before, while and after using the product or service (Rahn, 2012). Therefore, it is one of the biggest challenges for leading B2C companies to design services that not only function but are also rewarding and desirable to use. To achieve this goal, companies should examine their range of services from a consumer's point of view more often (Bodine, 2013; Stickdorn & Schneider, 2011).
This study tries to gain insights into some key issues surrounding the interaction between customers and a company's service offerings. Changes in technology and communication have reshaped the way we interact with each other, as well as with companies. The physical and digital worlds are becoming increasingly intertwined (Resmini, 2011). Many of the traditional design approaches and ways of delivering services seem to be outdated for today's challenges. Therefore, we need to address several unanswered questions. Examples of these new questions are: Which services are useful and how can they be adapted to a user's context? What makes a service desirable to use? How is it possible to offer services for customers with varying needs and not increase their confusion through complexity? In what way is it possible to offer services through a range of channels and still provide customers with a seamless experience? The difficulty in answering these questions does not arise because we need to improve our technical knowledge. It is much more about better understanding the needs and requirements of the customers who are living in a rapidly changing digital world. Furthermore, it is important to adapt our traditional design approaches according to the insights we gain from increased customer understanding. The ultimate goal is to find new ways of creating, delivering and orchestrating services to improve the experiences of customers. (Leimeister et al. 2014)

1.2 Purpose

The purpose of this study is to learn more about the consumers' interaction with companies over different channels. With an increased understanding of the experiences from consumers, companies are able to derive their needs and requirements. A list of design elements (see 1.6 Definitions) with a positive influence on the service experience would be a starting point to assess a company's service offerings or design them from scratch. With new knowledge about the consumers, it is also possible to reflect on current methods for designing services.

In the end, the findings from this study reveal areas for improvement in the design of the companies' digital and non-digital service infrastructure. The perspective of this study is from a consumer's point of view, but the insights gained through this study will allow companies to design and build better services to produce a cohesive experience for their customers.

1.3 Research questions

The purpose, as outlined from above, can be divided into these two research questions:

RQ1: Which design elements have a positive influence on the service experience of consumers?

RQ2: How can these design elements be used to analyze a company's service offerings, including possible touchpoints between the company and their customers?

The following subchapter presents the structure of this study. It is important to know where each research question will be addressed and answered. The design elements with a positive influence on the service experience (from the first research question RQ1) will come out as results of the literature review in the second chapter. Afterwards, they will be applied in the case studies about two companies and their service offerings. A possible answer for the second research question (RQ2) will be presented in the third chapter and tested with the case studies in chapter four. The multiple-case design should then allow a comparison between the results of the analyzed companies. Finally, it would be interesting to discuss if the results are generalizable to other companies and settings.
1.4 Structure

The content of this study is divided into five chapters:

1. **Introduction**
   The problem, purpose, research questions, structure, delimitations and definitions.

2. **Theoretical framework**
   A concept-centric literature review to know the status of the current knowledge. The inputs for this literature review come from the fields of User Experience, the broader cross-channel perspective and Customer Experience. The desired output is a list of design elements with a positive influence on the customers' service experience. The design elements are a combination of the above investigated concepts and fields of study. Additionally, a conceptual framing should be developed with these elements to describe the services in the following case studies.

3. **Methodology**
   The first part is about research methods in general. Next follows a collection and description of service design methods which can be used in the case studies to analyze the companies' service offerings. The final step is to build the design of the actual case studies with the list of design elements and conceptual framing from the literature review in mind.

4. **Results and analysis**
   Case studies analyze the service offerings from each company. The cases are divided into a general description of the companies' services, a representation of the investigated services with one or more design modeling tools and finally a qualitative assessment of the services from a consumer's perspective.

5. **Conclusion**
   The conclusion answers the research questions and summarizes the most important insights of this study.

6. **Discussion**
   The last chapter is about the interpretation of the case studies and their results. It would be interesting to discuss if the results are comparable and generalizable to other settings. Additionally, a reflection on the used methods helps other researchers to further investigate this problem space.

1.5 Delimitations

This study will focus on the analysis of service offerings in the business-to-consumer (B2C) context. The world of e-business and e-commerce is the framing where the investigated services are used. Only services for end customers are analyzed and they may be fully or partially digitalized. However, limitations in the analysis of certain aspects can occur due to the fact that not every analysis method is feasible in the context of a thesis (see page 19).

The perspectives used to analyze these services are derived from the business, technology and design sphere. Even though marketing and psychology would offer useful concepts about customer behavior, it is not feasible to integrate them in this informatics study. Furthermore, it is important to focus on a specific part of a company’s service offerings. An analysis of all B2C services would exceed the scope of this study, especially in regards to large multinational companies.
1.6 Definitions

This section defines the crucial concepts and terminologies used in this study. The definitions are important because they provide a common language and consistent way of understanding them. It is often the case that different terms are used to describe similar concepts. Such related terms are distinguished by a slightly different framing of the context or by another perspective. The related terms in the following section are therefore marked.

<p>| <strong>Channel:</strong> not to be confused with touchpoint | A channel is a medium of interaction between the customer and the company (Risdon, 2013a). It might be the sales counter, website, phone, email, social media presence etc. |
| <strong>Cross-channel:</strong> related to Omni- and Multichannel | ‘A single service is spread across multiple channels in such a way that it can be experienced as a whole (if ever) only by polling a number of different environments and media’ (Resmini &amp; Rosati, 2011, p. 10). ‘it’s a systemic change in the way we experience reality’ (Resmini, 2011) |
| <strong>Customer Experience:</strong> related to User Experience, but a broader framing see page 6 and 7 | How customers perceive all their interactions over various touchpoints with your company (Bodine, 2013). Meyer &amp; Schwager (2007, p. 2) define customer experience as ‘customers internal and subjective response to any direct or indirect contact with the company across multiple touch points’. It encompasses ‘the total experience, including the search, purchase, consumption, and after-sale phases of the experience’ (Verhoef et al. 2009, p. 32). |
| <strong>Design elements:</strong> | Fundamental ideas and principles about the practice of good design. In this study, they refer to designing customer services. |
| <strong>Digital services:</strong> | Business-to-consumer activities, where IT-enabled processes for end customers create added value (Leimeister, 2014). |
| <strong>E-business/ E-commerce:</strong> | Business activities, especially the buying and selling of products and services, which are supported by information and communication technologies (Ali, 2000). |
| <strong>Experience:</strong> | ‘An experience occurs when a company intentionally uses services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event’ (Pine &amp; Gilmore, 1998, p. 98). Experiences are personally, created after engaging on an emotional, physical or intellectual level (Pine &amp; Gilmore, 1998). |
| <strong>Customer journey:</strong> | The customer journey ‘may both precede the service encounter and continue after it’ (Lemke, Moira &amp; Hugh, 2011, p. 848). It defines the end to end journey, including all the touchpoints, where a customer goes through to either buy, utilise, enquire or experience something from your company (Rawson, Duncan &amp; Jones, 2013). |</p>
<table>
<thead>
<tr>
<th><strong>Multichannel:</strong> related to Omni- and Cross-channel</th>
<th>Multichannel offers more than one alternative for customers and the different channels can be used simultaneously (Resmini &amp; Rosati, 2011). This concept is partly outdated, explored and not useful anymore for analyzing today's challenges.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Omni-channel:</strong> related to Cross- and Multichannel</td>
<td>Resmini and Lacerda (2015, p. 3) consider ‘omnichannel as an industry-specific synonym for cross-channel’.</td>
</tr>
<tr>
<td><strong>Service design:</strong></td>
<td>A service design method with the goal of improving service quality, the interaction between service provider and customer and the customer experience (Stickdorn &amp; Schneider, 2011). Service design is comprised of ‘a 360 degree view on touch points and channels where consumers and producers interact’ (Resmini &amp; Rosati, 2011, p. 34).</td>
</tr>
<tr>
<td><strong>Touchpoint:</strong> not to be confused with channel</td>
<td>Touchpoints are intersections between the activities of customers and companies (Belz, Schögel &amp; Rutschmann, 2010). ‘A touchpoint is a point of interaction involving a specific human need in a specific time and place’ (Risdon, 2013b). A single channel can offer totally different touchpoints according to the service the customer is seeking.</td>
</tr>
<tr>
<td><strong>User-centered design:</strong></td>
<td>A design methodology which helps developers and designers to create products and services which meet the needs of their users (Lowdermilk, 2013). It could mean inviting future users of your product, system or service at an early stage in the design process and co-creating some of the design artifacts (Stickdorn &amp; Schneider, 2011).</td>
</tr>
<tr>
<td><strong>User Experience:</strong> related to Customer Experience, but a narrower framing see page 6 and 7</td>
<td>‘A person’s perceptions and responses that result from the use or anticipated use of a product, system or service’ (ISO, 2008). User Experience is not about the inner functionality of a product or service. It focuses on the way it works when someone gets in contact with it (Garrett, 2011).</td>
</tr>
<tr>
<td><strong>User-, use- and utility-centricity:</strong></td>
<td>A concept that places the digital user at the centre of attention. Promotes a shift of focus from standardized service offerings to context adaptive and personalized bundles of services (Brenner et al. 2014).</td>
</tr>
<tr>
<td><strong>Users/customers/ consumers</strong></td>
<td>A consumer is a private person who uses goods or services (Österle &amp; Senger, 2011). ‘They’re called users, respondents, visitors, actors, employees, customers, and more.... Whatever you call them and however you count them, they are the ultimate designers of the Web.’ (Morville &amp; Rosenfeld, 2006, p. 246).</td>
</tr>
</tbody>
</table>
2 Theoretical framework

This chapter provides the theoretical background for the following parts of this study. It includes a literature review with the goal of assessing the status of current knowledge. Inputs for this review stem from the fields of User Experience, the broader cross-channel perspective and Customer Experience. Key concepts from these study fields are analyzed to create a list of design elements with a positive influence on consumers' service experience. The final step in this chapter is the development of a new conceptual framing to describe and analyze a company's service offerings.

2.1 Included fields of study

There are different fields of study concerned with the interaction between a company's service offerings and its customers. Behavioral sciences such as psychology, and social sciences like economics offer superior framing for this kind of research. Additionally, there is often a technical interface between the customer and the company. This interface needs to be designed in a way that makes the interaction feel natural and intuitive. Therefore, it is important to choose interdisciplinary fields of study which combine technology, economics and behaviorally oriented sciences with a design approach.

In this literature review, the following concepts and fields of study are included: User Experience, cross-channel as an additional perspective and Customer Experience. This list makes no claim of being exhaustive and there are other fields concerned with a similar or related problem space. However, this selection should include the fields that are currently most influential and provide a balance between different perspectives. Because each field of study has its own framing and perspective on the problem. Some focus more on the technology, economic or design aspects, and the academic rigor differs between the fields. The following section presents the perspectives of the two fields and cross-channel as an additional concept. Furthermore, basic comparisons between their framings are made.

2.2 Perspectives of the fields of study

Milan Guenther, author of the book Intersection and founder of the company eda.c, which works with enterprise information architecture, posted an article online titled "Perspectives in Experience Design" (2014). For him experience refers to the way people perceive and integrate products or services into their lives. The word in front of experience stands for the perspective and scope you want to examine. The perspective of User Experience is generally on someone's usage of a product, service or system. However, a study by Law, Vermeeeren, Roto, Kort & Hassenzahl (2009) found that some User Experience researchers do not want to restrict their concept to the interaction with an artifact or a product (like Bogaards & Priester, 2005). A broader concept that looks at the big picture on an enterprise level is Customer Experience (Guenther, 2014). It not only analyzes the experiences of a company’s customers with its products and services, but also its communications and operations. Face-to-face interactions between employees and customers are also within the scope of Customer Experience (Law et al. 2009). Every aspect that shapes the relationship between an organization and its customers is central to the Customer Experience.

Many researchers and practitioners agree with the idea that User experience is a narrower concept and therefore a part of Customer Experience (Law et al. 2009; Bodine, 2013; Lowden, 2014). However, Guenther (2014) questions the idea and the benefit of integrating one perspective into another. He presents cases where it is unclear if User experience is always a part of Customer Experience. Additionally, a third perspective called Brand Experience...
includes even more actors in the "experience ecosystem" of an enterprise. It is not only concerned with the customers but also with the employees, suppliers, shareholders etc. Figure 1 shows how Holland (2013) and many other researchers and practitioners understand the relationship between User (UX), Customer (CX) and Brand Experience (BX).

The Experience Circle (Figure 1) depicts User Experience as a part of Customer Experience and both as parts of the Brand Experience. The circle is surrounded by a customer journey that divides the interactions or touchpoints into a learn, purchase and use phase. One can say that Customer Experience focuses more on the first two phases where the customer learns about the existence of the company’s offerings and continues to purchase something. Hence, User Experience is much closer to the usage phase where the customer uses the service or product. However, the boundaries between these concepts are very blurry. The Experience Circle from Holland (2013) represents this fact very well with light blue CX areas in the usage part and the other way around with the violet UX areas in the first two phases. The third perspective with the Brand Experience includes even more stakeholders of a company. But it exceeds the scope of this study, which focuses mainly on customers and therefore on User and Customer Experience.

For Guenther (2014), the key difference between User- and the broader Customer Experience is that there is a more or less defined artifact that is being used. This fact links design work closer to the artifact which is the center of attention in the User Experience world. Guenther argues that until now, User Experience has been less business-focused and more interested in the way people interact with technology. In the perspective of Customer Experience, the business focus is more important. According to Bogaards (2012), Customer Experience ‘is the economic incarnation of user experience of the 21st Century’. At the centre of this view is not the artifact (or the artifacts), but the customer and his relationship to the organization. However, Bogaards criticizes the almost non-existent collaboration between UX and CX experts. He sees a huge potential for designers in these two fields to learn from each other and to exchange their knowledge. But according to him, there is hope.
There are emerging concepts from the User Experience sector which have potential to become connectors to Customer Experience. Among these concepts, he lists cross-channel experience and service design (see definitions). This literature review also considers contributions on cross-channel, because they offer an additional and valuable perspective.

In multichannel environments, a service is not linked to a specific channel anymore. The cross-channel concept slowly supersedes multichannel and goes further. There, a single service can only be experienced by using a number of different channels and media. One of the best examples is air travel, where you can check-in online and print your boarding pass or download it to your mobile phone in order to board a plane. The main difference between the traditional viewpoint of User Experience and cross-channel is the number of artifacts involved. User Experience focuses only on one artifact, whereas cross-channel deals with designing multiple interrelated artifacts and it considers the different media choices of users. Hence, in some aspects, cross-channel is much closer to Customer Experience. They share a very important aspect which is the holistic or systemic perspective. Both consider products or services as a part of an ecosystem and the final experience constitutes the whole journey of getting from the start to the end. However, the difference is that cross-channel is not a field of expertise. It is a concept explaining the ‘systemic change in the way we experience reality’ (Resmini, 2011). But one can say that a Customer Experience expert needs to address a lot of cross-channel issues, because they overlap. (Resmini & Rosati, 2009)

2.3 Research concept

This research concept describes how the literature review is approached empirically. It includes requirements for the types of articles that were chosen to be investigated. The most important requirement was the topic and field of study. There should be a clear focus on one of the mentioned fields or concept (see 2.1 Included fields of study). Additionally, only articles with a general, non specific scope were considered. This means that, for example, an article discussing User Experience exclusively for the travel sector would be excluded. The scope has a large influence on the application of a concept. Furthermore, the articles were not considered if the concept was not detached from a specific medium or artifact.

The goal of the literature review is to find and create a list of design elements with a positive influence on the service experience of consumers. Each of the mentioned concepts will be analyzed to better understand how it can improve the service experience. This implies a certain focus on the architecture and design perspective. Because it is the design of the service artifacts which in the end contributes to a great extent to creating a satisfactory experience. However, academia is not particularly strong when it comes to design-oriented research. The focus of research lies mostly on the production of knowledge and not on its application (March & Smith, 1995; Winter, 2008). Nevertheless, there is Design Science Research with its roots in engineering and sciences of the artificial (Simon, 1981). In contrast to behavioral research, it focuses on utility and not so much on truth (Hevner, March, Park & Ram, 2004). But Design Science Research is still a young academic discipline and rigor is not yet fully established (Winter, 2008). The bottom line is that the relationship between design and research is problematic. Many articles exist in the non-scientific and more practice-oriented literature. Therefore, it would be counterproductive to only include academic papers in this literature review. Contributions in the field of User Experience are scarce (Hassenzahl & Tractinsky, 2006). But there are more practice-oriented books and online articles about User Experience. Customer Experience and cross-channel are more frequently discussed as topics in academic journals (Frow & Payne, 2007). Although not all literature found was peer-reviewed, but it should still meet a basic scientific standard.
The literature was found by searching the online library of Jönköping University, the research platform Alexandria from the University of St. Gallen, Google Scholar, Google in general and by back and forward searching with references. The search for literature was carried out between the middle and end of February 2015. Two objectives were achieved with the literature search. The first was to learn more about User Experience, Customer Experience and cross-channel in general. Only with a profound understanding of these concepts is it possible to comprehend how they can improve the service experience of consumers. The second objective was to search for design elements within this field of study or concept that have a positive influence on this service experience. The difficulty there was that they are not necessarily termed as "design elements for ...". There are many related words for "elements" with a similar meaning. The search terms used to achieve the first objective were: "User Experience", "Customer Experience" and "cross-channel" and the same plus "design". For the second objective, they were combined with additional terms such as "aspects of", "criteria for" or "facets of" to make the search more purposeful. Additional information about the search process is shown in the Appendix A, "Literature search concept". In total, 25 articles or books were found to investigate. All were classified according to their concept and summarized in Table 1 together with their findings.

Table 1: Concept Matrix according to Webster & Watson (2002).

<table>
<thead>
<tr>
<th>Articles (Name of first author)</th>
<th>Concept</th>
<th>Findings (shaded in dark gray are elements concerned with the design)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hassenzah, M.</td>
<td>UX</td>
<td>A research agenda for User Experience</td>
</tr>
<tr>
<td>Law, E.</td>
<td>UX</td>
<td>A survey to understand, scope and define User Experience</td>
</tr>
<tr>
<td>Bargas-Avila, J.</td>
<td>UX</td>
<td>8 Dimensions of Experience in UX research</td>
</tr>
<tr>
<td>Bell, S.</td>
<td>UX</td>
<td>UX goals: Be different, be memorable and evoke loyalty</td>
</tr>
<tr>
<td>Garrett, J. J.</td>
<td>UX</td>
<td>5 levels from abstract to concrete with UX elements</td>
</tr>
<tr>
<td>Guaitleri, M.</td>
<td>UX</td>
<td>Design requirements: Useful, usable, and desirable</td>
</tr>
<tr>
<td>Hartson, R.</td>
<td>UX</td>
<td>Utility, Usability, Functionality, Persuasiveness and Look &amp; Feel</td>
</tr>
<tr>
<td>Morville, P. (04)</td>
<td>UX</td>
<td>7 Facets of the User Experience (Honeycomb)</td>
</tr>
<tr>
<td>Fulgoni, G. M.</td>
<td>CC</td>
<td>Path-to-purchase, seamless experience -&gt; eliminate silos</td>
</tr>
<tr>
<td>Resmini, A. (09)</td>
<td>CC</td>
<td>Seamless UX process, users as intermediaries, flexible structures</td>
</tr>
<tr>
<td>Klie, L..</td>
<td>CC</td>
<td>Experiences: Cohesive, Unified (Consistent) and Contextual</td>
</tr>
<tr>
<td>Fisher, J.</td>
<td>CC</td>
<td>Heuristics: Consistent, Meaningful, Context, Reduction etc.</td>
</tr>
<tr>
<td>Morville, P. (11)</td>
<td>CC</td>
<td>Cross-channel Crystal with 6 facets</td>
</tr>
<tr>
<td>Resmini, A. (11)</td>
<td>CC</td>
<td>5 Heuristics: Place-making, Consistency, Resilience, Reduction and Correlation</td>
</tr>
<tr>
<td>Resmini, A. (15)</td>
<td>CC</td>
<td>Design values: Consistency, Continuity, Statefulness, Engagement and Co-creation</td>
</tr>
<tr>
<td>Pine, B. J.</td>
<td>CX</td>
<td>Services as the stage to provide a memorable experience</td>
</tr>
<tr>
<td>Grewal, D.</td>
<td>CX</td>
<td>Easy, consistent, multiple channels and being responsive</td>
</tr>
<tr>
<td>Bodine, K.</td>
<td>CX</td>
<td>Holistic, meets needs, easy and enjoyable, measure CX</td>
</tr>
<tr>
<td>Dandridge, M.</td>
<td>CX</td>
<td>Customer centred, listen and empower your employees</td>
</tr>
<tr>
<td>Forlizzi, J.</td>
<td>CX</td>
<td>Concept of pleasure, scalability of experience</td>
</tr>
<tr>
<td>Gentile, C.</td>
<td>CX</td>
<td>Whole journey, consistency, experiences are strictly personal</td>
</tr>
<tr>
<td>Lemke, F.</td>
<td>CX</td>
<td>Customers assess their journey (experiences) holistically</td>
</tr>
<tr>
<td>Meyer, C.</td>
<td>CX</td>
<td>Service features, ease of use, reliability and tracking CX</td>
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<td>Rawson, A.</td>
<td>CX</td>
<td>Complete journeys, 4 Steps to improve the CX</td>
</tr>
<tr>
<td>Verhoef, P. C.</td>
<td>CX</td>
<td>Holistic in nature, factors outside of the company's control</td>
</tr>
</tbody>
</table>
2.4 User Experience

This subchapter focuses on User Experience by first describing the concept. This includes a short history, its definition and the scope in which it is used. Next, measurable aspects of User Experience are presented. The subchapter closes with design elements from the User Experience field which contribute to a good service design.

2.4.1 Description of the concept

User Experience has its roots in the field of Human-Computer Interaction. Their traditional concept of usability with a focus primarily on user cognition and performance proved to be incomplete. User Experience comprises usability and extends this concept with the users’ affection and sensation towards the used product, service or system. Additionally, the meaning and value of such interactions are important. Therefore, the term useful is often mentioned in connection with User Experience. (Law et al. 2009; Hassenzahl & Tractinsky, 2006)

The ISO definition of User Experience is the following: ‘A person’s perceptions and responses that result from the use or anticipated use of a product, system or service’ (ISO, 2008). Law et al. (2009) conducted a survey on User Experience with researchers and practitioners. Their findings showed that there is still a heterogeneous understanding of the concept. They recommend scoping User Experience to a design artifact (a product, system, service or anything a person interacts with through a user interface). However, some respondents of the study want to define it as a broader concept. They agree on the subjectivity of User Experience. Each user has different perceptions and responses towards the same artifact. The perceptions and responses are greatly influenced by a person’s internal state, his earlier experiences and the current context while using it (Hassenzahl & Tractinsky, 2006; Law et al. 2009). The artifact itself only has a limited influence on these things. For example the user’s internal state comprises expectations, motivation, needs, mood etc. (Hassenzahl & Tractinsky, 2006). But then, a direct response to the artifact is provoked by its design characteristics. The characteristics of the artifact’s design can include for example usability, functionality and usefulness. All these elements shape the resulting User Experience in different ways.

Most of the survey respondents also agree on the fact that User Experience includes the phases before, during, and after interacting with the product, system or service. An affective or emotional assessment happens not only during the usage phase. A user has expectations before the usage and digests the experience of it afterwards. In an ideal situation those experiences are in accordance with his expectations. Even better is when he is delighted by unexpected attributes. The Kano model for example differentiates between basic needs, performance needs and delighters (Matzler, Hinterhuber, Bailom & Sauerwein, 2006). The performance needs are explicitly demanded by the customer while the delighters are unexpected. Both of them can increase customer satisfaction. (Law et al. 2009)

Furthermore, the difference between User Experience and Usability is a discussed topic among researchers and practitioners. Hassenzahl and Tractinsky (2006, p. 91) describe User Experience as the ‘countermovement to the dominant, task- and work-related ‘usability’ paradigm’. Usability has to do with effectiveness and efficiency. It stands for the ease of use and learnability a product, system or service offers to his users (Richter & Flückiger, 2010). User Experience is the broader concept and complements efficiency and function-oriented Usability with affection and sensation towards the used artifact. Rahn (2010) divides User Experience into Usability and Look & Feel (joy of use, confidence, ambiance, harmony etc.) which describes what is meant by affection and sensation pretty well.
When it comes to the measurable aspects of User Experience, traditional Usability metrics are easier to assess (Law et al. 2009). For example some of these metrics are intuitiveness, predictability, reliability and error robustness (Rudlof, 2006). It consumes time and money, but usability tests in special laboratories can measure such metrics. This is more difficult for the Look & Feel part which cannot be quantified so easily with a number (Garrett, 2011). There are metrics for User Experience but mostly they measure something indirectly. One of the best ways to ensure a good User Experience is to follow a User-centred design approach (Stickdorn & Schneider, 2011; Agathos, Gosper, Coatta & Rutter, 2011). To follow such an approach might include the integration of lead users, the development of personas or user acceptance testing during the project.

2.4.2 Design elements

First of all, it is important to declare that the usability concept has not been made obsolete by the User Experience notion. The performance- and functionality-oriented criteria for Usability (look for examples in the paragraph above) are still essential. It would, for example, be difficult to deliver "joy of use" when the "ease of use" is not present. Both are intertwined like most of the Usability and User Experience factors. But User Experience extends the range of design qualities. (Hartson & Pyla, 2012)

Javier Bargas-Avila and Kasper Hornbæk (2011) reviewed how User Experience research is conducted and they found eight dimensions of experience. The most frequently analyzed dimensions are affect and emotions (24%), aspects of enjoyment (17%) and aesthetics (15%). The dimensions with a lower priority are hedonic quality, engagement, motivation, enchantment and frustration. The results and the three most frequently mentioned dimensions were not a surprise for the authors, because they see them as core to User Experience. Three goals for User Experience which are suitable to the importance of affection and emotions are proposed by Steven Bell (2010). These goals are: be different, be memorable and evoke loyalty. Bell argues that each setting is different and therefore it is important for a User Experience to be unique. Emotions are also crucial and a particularly good experience will be memorized as well as bad experiences. Finally, an affection in the form of loyalty towards a brand or company is the goal because this leads to users or customers who come back, which increases profits.

Jesse James Garrett (2011) proposed another approach to explain User Experience. He is more design-oriented and divided User Experience tasks into five levels from abstract to concrete. Objectives for the product are defined on the more abstract strategy level. On the scope level, functional requirements are specified. The structure and skeleton level deals with the interaction, information and interface design. Finally, the last concretization happens on the surface level with the visual design (which is the "Look" in Look & Feel). But the idea behind this model is not to present these levels as self-contained task areas. In fact, the opposite is the case. The tasks are intertwined and the levels influence each other. The lessons learned are that a User Experience design process is iterative and goes from abstract to concrete.

When it comes to design requirements for User Experience, three terms are often mentioned. These terms are: useful, usable, and desirable. Mike Gualtieri (2009) from Forrester Research, for example, promotes them as inevitable elements. The user-, use- and utility-centricity concept (from the Introduction) is also related to these three terms. Hartson and Pyla (2012) mention in *The UX Book* five components of a User Experience: utility, usability, functional integrity, persuasiveness and graphic design (Look & Feel). One can say that they cover most of the aspects provided by "useful, usable, and desirable" because utility
closely refers to usefulness and graphic design is a way to ensure desirability. The desirable aspect is sometimes interpreted differently. Gualtieri (2009) explains it with emotions and enjoyment. Others focus more on the looks and graphics (Hartson & Pyla, 2012; Revang, 2007). Reasons for that are the relative novelty of this aspect and the difference to Usability. Useful and usable are clearly characterized by the influence of Usability, whereas desirability has to do with the Look & Feel and the broader scope where User Experience extends Usability. Useful and usable are behavioral measures and desirability is something more intangible (Barnum, 2010).

Peter Morville’s (2004) UX Honeycomb is the model that best combines the behavioral and intangible characteristics of User Experience. Morville placed the facets of User Experience in seven hexagons (see Figure 2). He included both behavioral measures and intangibles (desirable, valuable and credible) which are determined by the users (Barnum, 2010). The Honeycomb was originally created with a focus on web design but it can be easily used to assess experiences on a broader scope (Barnum, 2010). An additional idea behind the Honeycomb is the definition of priorities. Morville does not promote each of the facets as equally important. Every User Experience project has to set its own priorities between the following facets:

**Useful:** The usefulness of an artifact refers to the utility it provides to users. A user or customer has a goal in his mind he would like to achieve by interacting with a company. When he is able to accomplish his goals, then the provided service, product or system was useful.

**Usable:** It is about the ease of use and learnability. The usability is good when users can easily perform tasks without needing a lot of learning time. It is perfect when the user does everything intuitively and the system reacts predictably (Gualtieri, 2009).

**Desirable:** The emotional impact of design elements such as images and color schemes, but also the affection and expectations which are, for example, caused by a product or brand. Look & Feel is a term associated to the aspect desirable. In the end, it is about customers enjoying their experience (Gualtieri, 2009).

**Findable:** Users should be able to quickly find what they need. This has to be guaranteed on a detailed level with navigable artifacts, but also from a high-level perspective. For instance, a service that no one knows about is useless. (Morville, 2004)

**Accessible:** Products and services need to be accessible to all kind of people. No barrier should be there for people with disabilities. (Morville, 2004)

**Credible:** Credibility is not automatically given. It is important to understand the process of trust building. Therefore, one has to identify the design elements that may have an influence on a user’s trust. (Morville, 2004)

**Valuable:** A product, service or system has to deliver value to all involved stakeholders. The provided experience should always strive to improve the satisfaction of users. No matter if it is used in a non-profit or commercial context. (Morville, 2004)

All of these facets are interrelated and they have an effect on each other. Nevertheless, it is useful to analyze these facets or design qualities separately in order to comprehend their importance. Then you are able to apply them effectively during the design. (Barnum, 2010)

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2.5 Cross-Channel

The second concept in this literature review is cross-channel. This subchapter has the same structure as the previous one. It first describes the concept and then comes up with design elements which contribute to good service design.

2.5.1 Description of the concept

Cross-channel is a common marketing term like multichannel. It has roots in media-specific disciplines such as Crossmedia and Transmedia. A popular and widely discussed topic in these disciplines is convergence. It is about content spanning across multiple media platforms, such as movies, books and websites, and the behavioral change of media consumption (Jenkins, 2006). However, convergence not only influenced media-specific disciplines, but also changed the way people interact with products and services. Cross-channel was introduced to design-driven practices like User Experience to take these new ways of interacting with products and services into account. (Resmini & Lacerda, 2015)

Some examples of changing consumer behaviour are related to the path-to-purchase and the influence between online (digital) and offline (in-store) purchasing. A TV advertisement can lead customers to search for the product on a website. Or they look something up online, but buy it later in a store (Fulgoni, 2014). This combination of different touchpoints puts more emphasis on the whole experience (McMullin & Starmer, 2010).

Two related concepts are multi- and omni-channel. However, the idea behind multichannel (see subchapter 1.6 Definitions) is already outdated. The main problem is that information is not exchanged between the different channels and no status holds the progress of a customer. Cross-channel introduced a systemic or holistic perspective which is very important for avoiding this siloed approach from the multichannel concept. Resmini and Lacerda (2015) use the term cross-channel ecosystems to emphasize the nature of these intertwined channels and the role of the customer, which will be discussed in the next paragraph. The new omni-channel term is popular among marketers (Carroll & Guzmán 2013), but does not really add anything substantial to the cross-channel concept. Resmini & Lacerda (2015) therefore regard it as an industry-specific synonym. (Resmini & Lacerda, 2015)

According to Resmini & Rosati (2009), users are increasingly becoming intermediaries. Content is produced in cooperation with organizations which leads to ecosystems with an emergent character. The companies do not control the customers’ journeys anymore. They are now the ones who individually generate their own paths from one touchpoint to another. This change of ownership demands new flexible structures and a rethinking of how to design services in such an environment. (Resmini & Lacerda, 2015)

2.5.2 Design elements

A criteria that is often mentioned in relation to cross-channel design is seamless (Fulgoni, 2014; Carroll & Guzmán 2013). A seamless experience is expected by customers no matter if they switch between channels or between the physical and digital world. To achieve that, a company has to eliminate its organizational silos (Klie, 2012). However, Resmini and Lacerda (2015) are opposed to this seamless experience in cross-channels and promote seams as navigational and experiential aids like Rudström, Höök and Svensson (2005).

Klie (2012) uses the term cohesive to describe a good cross-channel experience. It goes in the same direction as seamless. Cohesive is surely important for a single company's service ecosystems where everything should fit together. But if you consider customers as the con-
structures of their own journey from one touchpoint to another, then Resmini and Lacerda (2015) might be right. It is better to show the customers where they can connect something together.

The design element that is mentioned most commonly for cross-channel structures is \textbf{Consistency} (Klie, 2012; Morville, 2011; Resmini & Rosati, 2011; Resmini & Lacerda, 2015). Morville (2011) describes it as a balance between the usage of features, interaction possibilities and brand identity among the different platforms or channels. Resmini & Rosati differentiate between internal and external consistency. Internally, it is about fitting to the purpose, context and users and externally it has: "to maintain the same logic along different media, environments, and times in which it acts" (2011, p. 55).

The gathering of information about customers and their context of service or product usage is a common topic. Klie (2012) and Morville (2011) call this approach \textbf{Contextual}. It is clear that the user’s physical context (like time, location or device), as well as the personal and social context, has an influence on his behavior (Morville, 2011). When someone, for example, searches for a place to eat at 8:00 p.m., then it is probably more useful to recommend a restaurant that serves dinner and not breakfast. Additionally, if you know more about a user’s preferences or past behavior, then you are able to \textbf{personalize} your services.

Resmini and Rosati (2011) called one of their heuristics \textbf{Reduction}. It stands for the capability of an ecosystem to manage large amounts of information. For the users, it is stressful to choose between the ever-growing number of information sources, services, and goods.

One of the most important design elements for cross-channel is \textbf{Continuity}. Morville (2011) uses the notion of "flow" to describe it. A user should always progress towards his goals with every action he takes. The main enemies of continuity are gaps and inconsistencies between services or channels. The worst-case scenario is when the user has to start over from the beginning. To avoid this scenario, a customer’s service has to maintain its current state or progress no matter which channel was used. If a customer, for instance, submitted data on a webform and calls the customer service afterwards, then he will expect that the call center agent can see this data. Resmini and Lacerda (2015) congruously mention \textbf{Statefulness} as one of the design values for cross-channel.

To consider the changing role of users (see subchapter 2.5.1 Design elements), Resmini and Lacerda (2015) added \textbf{Engagement and Co-creation} as cross-channel design values. Users are contributing actively to creating value within an ecosystem. This demands for more flexible and less autocratic structures where users are directly integrated. An increasing trend in the digital sphere is self-services for customers (Penkert et al. 2014).

Furthermore, visible \textbf{Connections} are important for bridging across channels (Morville, 2011). They should help to find your way across this physical and digital sphere. Examples for such connections are links between content-based websites and web services or tags on a physical product. Resmini and Rosati (2011) introduced a heuristic that is based on this connection idea and they called it \textbf{Correlation}. The promotion for visible connections also contradicts the term seamless which was discussed at the beginning of this subchapter.

Not included as additional design elements were the heuristics Place-making (partly covered by the definition of Connections above) and Resilience from Resmini and Rosati (2011). Additionally, Conflict/Composition from Morville’s cross-channel crystal are missing. Conflict frames the cross-channel strategy more from a company’s than a customer’s perspective. Composition asks the question if a service uses multi- or cross-channel. It is not a bad question and useful to categorize services, but it is not a design element per se.
2.6 Customer Experience

The last concept included in this literature review is Customer Experience. This subchapter describes the concept and then comes up with design elements from the Customer Experience field which contribute to a good service design.

2.6.1 Description of the concept

The concept of Customer Experience gained popularity in recent years. However, the first research in this area dates back to the mid-1980s. Holbrook and Hirschman (1982) questioned the role of the customer as a rational decision maker and introduced an experiential approach with emotions as a driver of behavior. Just before the turn of the millennium, Pine and Gilmore (1999) lit another spark with their book on the Experience Economy. They argued that a company can no longer differentiate itself based on quality or price aspects alone. Instead, a company should focus on delivering a superior Customer Experience. (Gentile, Spiller & Noci, 2007; Frow & Payne 2007)

But one should not misinterpret Pine and Gilmore because Customer Experience is not something that substitutes the delivery of good services and products for an appropriate price. Due to its age, their idea of companies selling (or staging) personal and memorable experiences is becoming obsolete. Nowadays, customers are more independent and a company should provide them with artifacts and contexts to co-create their own unique experiences. (Caru and Cova, 2003; Caru and Cova, 2007)

The conceptualizations and interpretations of Customer Experience still differ, which is normal for a research field that is far from maturity. Verhoef et al. (2009, p. 32) define it as encompassing 'the total experience, including the search, purchase, consumption, and after-sale phases of the experience'. Additionally, according to Verhoef et al. (2009, p. 32), it is 'holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer. This experience is created not only by those factors that the retailer can control (e.g., service interface, retail atmosphere, assortment, price), but also by factors outside of the retailer's control (e.g., influence of others, purpose of shopping').

To emphasise this notion of "total experience", the metaphor of the customer journey is often used. Earlier research from Swinyard (1993), among others, defined the experiences along this journey as the service perceptions through each touchpoint with the firm. However, today, most of the Customer Experience experts see this journey as both preceding the contact with the company and continuing after it (Gentile et al 2007; Lemke et al 2011). Prior to service delivery or purchase, this may include the experience of direct marketing (Brakus, Schmitt & Zarantonello, 2009) or word of mouth (Kwortnik & Ross, 2007). Additionally, prior experiences can be contextual elements on how the company's channels are approached or encountered (Gilmore & Pine, 2002). The after service experience is comprised of the customer's application of the product to reach his goals (Woodruff, 1997).

Meyer & Schwager (2007, p. 2) differentiate between direct or indirect contact with a company. For them: 'Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth'. Payne, Storbacka and Frow (2008) fittingly use the terms communication, usage and service encounter to describe direct contacts with a company. If you consider this combination of direct and indirect contacts, it becomes clear that a service provider cannot control every aspect of the whole customer journey (like Verhoef et al. 2009 mention in their definition).
Furthermore, it is important to mention that the experience of a customer is strictly personal (Gentile, Spiller & Noci, 2007). This experience can be influenced from the outside but the final assessment of a company's service quality happens in the minds of the customers. The interaction with a company's products and services engages a customer at different levels. These levels are, according to Schmitt (1999), rational, emotional, sensorial, physical and "spiritual”.

### 2.6.2 Design elements

To provide customers with a satisfying experience, Grewal, Levy and Kumar (2009) list the following requirements: ‘easy interactions between the customers and the firm, consistency of the message across all the communication channels, providing multiple channels to interact and shop, and finally being responsive to customer needs and feedback’. It is very important to understand that the customer's assessment of an experience now comprises a series of interactions (so-called touchpoints) between him and a company. For each touchpoint, the gap between a customer's expectations and actual experiences determines if he is delighted or something less on the excitement scale. The net result of all these touchpoints (good experiences where expectations are met minus the bad ones) is the most important outcome. (Meyer & Schwager, 2007)

Previous experiences with the company or competitors is important for the building of expectations (Verhoef et al. 2009). How bad it is if expectations (at one touchpoint) are not met, is determined by the extent of failure and the importance of the touchpoint for the customer. For example, if a customer perceives a service step as highly critical, then it is crucial to meet his expectations there. This also helps to easily forget some failed, but less critical touchpoints. (Rawson, Duncan & Jones, 2013)

If we look at the definition of Customer experience, it says that it encompasses nearly every aspect of a company’s service offering. For Meyer & Schwager (2007) this includes customer care, advertising, packaging, product and service features, ease of use, and reliability. Other experts like Kerry Bodine from Forrester Research (2013) also use quite similar criteria for Customer Experience as for User Experience. They created a pyramid at Forrester with Meet needs at the bottom, Easy to do business with as a second criteria in between and Enjoyable at the top. The pyramid shape was chosen because it represents the same idea as Maslow's "Hierarchy of Needs" (1943) with a basic need at the bottom which has to be fulfilled to move to the next level etc. Meet needs has to do with providing value and understanding customers. All three criteria are basically the same as useful, usable, and desirable. Bodine even suggests that they can be used interchangeably.

It is not so surprising that all the design elements from User Experience and cross-channel count for Customer Experience as well. Rawson, Duncan and Jones (2013) fittingly stated this in their subtitle: ‘Touchpoints matter, but it’s the full journey that really counts’. This sentence describes the relation between single touchpoints and the whole journey well. The bottom line is that a company still needs to work on each touchpoint (where User Experience is key), but must also focus on the whole customer journey (closely related to cross-channel). Gentile and Grewal et al., for example, use the term Consistency for Customer Experience with the same meaning as in cross-channel (see 2.5.2 Design elements).

There is, however, one term that is quite unique to Customer Experience and this term is **Holistic**. It describes the perspective one should take while designing a good Customer Experience and it puts the emphasis on the whole journey. For Bodine (2013), this holistic approach needs to be considered in regards of the customers as well as the company side. Different functional silos can hamper a company in its delivery of a delightful experience. Therefore, it is often mentioned that **empowering** employees is crucial (Rawson, Duncan
& Jones, 2013; Dandridge, 2010; Bodine, 2013). A position exclusively responsible for Customer Experience can help companies to restructure their efforts. However, over time, a culture of customer-centricity should be developed to make this position obsolete. The goal is to get interdisciplinary design teams working across functional silos. In the end, not only the designers, but every employee should be a piece of a puzzle that helps to implement this holistic approach.

Furthermore, the measurement of customer data is essential to a good Customer Experience (Bodine, 2013; Meyer & Schwager, 2007; Rawson, Duncan & Jones, 2013). It is nearly impossible to design perfect customer journeys without knowing what your customer’s goals are. Only an increased understanding and feedback from the customer allows a company to be a "Customer Experience Champion". (Meyer & Schwager, 2007)

### 2.7 Combination as an own conceptual framing

At the end of subchapter 2.2 "Perspectives of the different fields", Bogaards (2012) was cited criticizing the almost non-existent collaboration between User and Customer Experience experts. He sees a huge potential for designers in these two fields to learn from each other and exchange their knowledge. Reichelt (2012) and Anhalt (2013), two User Experience experts, profoundly agree with Bogaards and address the same problem.

A list of service design elements from different fields of study does not yet exist. It can therefore be a contribution to launch the collaboration of these fields. The comparison of the framing is already very useful for better understanding the scope of the different concepts. The following Table 2 combines the three concepts, their framing and their design elements to an own conceptual framing. Selected were all the bold-faced design elements from the last three subchapters. For some elements, an alternative term can be used as well.

**Table 2: Combination of the three concepts, their framing and their design elements.**

<table>
<thead>
<tr>
<th>Concept and framing</th>
<th>Design elements</th>
<th>Alternative term</th>
</tr>
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<tbody>
<tr>
<td><strong>User Experience</strong></td>
<td></td>
<td>User Experience</td>
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<tr>
<td>Each touchpoint and service or product should be:</td>
<td>Useful</td>
<td>Honeycomb</td>
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<td></td>
<td>Usable</td>
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<td></td>
<td>Desirable</td>
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<td>Credible</td>
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<td>Valuable</td>
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<tr>
<td><strong>Cross-Channel</strong></td>
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<td>In an ecosystem of artifacts, each one should be:</td>
<td>Consistent</td>
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<td></td>
<td>Contextual</td>
<td>Personal</td>
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<td></td>
<td>Reduction</td>
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<td></td>
<td>Continual</td>
<td>Stateful</td>
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<td></td>
<td>Engaged</td>
<td>Co-creation</td>
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<td></td>
<td>Connectable</td>
<td>Correlation</td>
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<tr>
<td><strong>Customer Experience</strong></td>
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<tr>
<td>The whole customer journey should be:</td>
<td>Empowered</td>
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<td></td>
<td>Measurable</td>
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<tr>
<td></td>
<td>Holistic</td>
<td>Journey-perspective</td>
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</tbody>
</table>
3 Methodology

This chapter is concerned with the research approach used in this study. It includes an overview of the research design, a discussion of how to apply the discovered design elements and most importantly it justifies and describes the chosen research methods. Moreover, the chapter discusses the credibility of this study in general.

3.1 Research Design

The research design is the blue print containing the plan of how a study will be conducted. It should be well-considered and based on the approach that helps to solve the stated research problem in the best possible way. Building a research design starts with the decision between a qualitative, quantitative or mixed methods approach. The purpose of the study often predetermines what the decision will be. A qualitative research approach is better suited to exploring and understanding ‘the meaning individuals or groups ascribe to a social or human problem’ (Creswell, 2013, p. 4). It also allows a certain degree of flexibility, which will be needed in order to respond to the rather exploratory purpose of this study (Patton, 2002). According to Creswell (2013, p. 4), a quantitative approach on the other hand is for ‘testing objective theories by examining the relationship among variables’. (Creswell, 2013)

This study is better suited for a qualitative research approach. Especially because we do not yet know the exact variables or elements that influence service quality. Another goal of this study was to find a way to apply design elements in practice. In order to do this properly, one needs to use a real setting with its context. Case studies are best suited ‘to investigate a contemporary phenomenon within its real-life context’ (Yin, 2003, p. 13). This fact also speaks for a qualitative approach, because case studies are qualitative methods.

Furthermore, this study uses a mix of deductive and inductive approaches. If using a deductive approach, then you ‘use the literature to help you to identify theories and ideas that you will test using data’ (Saunders, Lewis & Thornhill, 2009, p. 61). The opposite is called inductive approach and is about exploring data and trying to develop theories from it. These theories can be subsequently related to existing literature. (Saunders, Lewis & Thornhill, 2009)

The conceptual framing (see Table 2, list of design elements) as a result of the literature review represents the deductive part of this study. It was developed by taking ideas and results from existing concepts and models. The list of design elements will be tested with empirical data from case studies and with expert interviews.

On the other side, the application of the design elements (research question 2) follows an inductive approach. Empirical data will be gathered to find ways of applying these elements in practice. Expert interviews and case studies are used as empirical methods.

There are three main types of research designs: exploratory, descriptive and explanatory (Saunders, Lewis & Thornhill, 2009; Marshall & Rossman, 1999). The exploratory design seeks to gain new insights, poses questions and assesses a phenomena in a new light. According to Saunders et al. (2009, p. 139): ‘It is particularly useful if you wish to clarify your understanding of a problem, such as if you are unsure of the precise nature of the problem’. In the case of this study, the application of the design elements in particular can be regarded as an exploratory approach. The literature review was more of a mixture between descriptive and explanatory elements, with the description of the concepts as the descriptive part and the comparison of the author’s design elements representing the explanatory section, trying to establish relationships between variables (Saunders, Lewis & Thornhill, 2009).
### 3.2 Application of the found design elements

An important part of this methodology chapter is to find a way to apply the found design elements from the literature review. This is not an easy task and it can therefore be regarded as a challenge. One of the main problems is the heterogeneity of the design elements, especially in regards to how to measure them. The Table 3 below therefore shows each design element and common ways to measure it.

Table 3: List of design elements with an additional column describing how to measure each element.

<table>
<thead>
<tr>
<th>Concept and framing</th>
<th>Design elements (Alternative term)</th>
<th>How to measure it</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User Experience</strong></td>
<td><strong>Useful</strong></td>
<td>User interviews or surveys</td>
</tr>
<tr>
<td>Each touchpoint and service or product should be:</td>
<td><strong>Usable</strong></td>
<td>Usability testing in labs</td>
</tr>
<tr>
<td></td>
<td><strong>Desirable</strong></td>
<td>User interviews, tests in labs</td>
</tr>
<tr>
<td></td>
<td><strong>Findable</strong></td>
<td>Usability testing, expert evaluation</td>
</tr>
<tr>
<td></td>
<td><strong>Accessible</strong></td>
<td>Expert evaluation</td>
</tr>
<tr>
<td></td>
<td><strong>Credible</strong></td>
<td>User interviews or surveys</td>
</tr>
<tr>
<td></td>
<td><strong>Valuable</strong></td>
<td>Stakeholder interviews</td>
</tr>
<tr>
<td><strong>Cross-Channel</strong></td>
<td><strong>Consistent</strong></td>
<td>Expert evaluation</td>
</tr>
<tr>
<td>In an ecosystem of artifacts, each one should be:</td>
<td><strong>Contextual (Personal)</strong></td>
<td>Test with different trial (fake) users</td>
</tr>
<tr>
<td></td>
<td><strong>Reduction</strong></td>
<td>User interviews or surveys</td>
</tr>
<tr>
<td></td>
<td><strong>Continual (Stateful)</strong></td>
<td>Test with different scenarios</td>
</tr>
<tr>
<td></td>
<td><strong>Engaged (Co-creation)</strong></td>
<td>Expert evaluation</td>
</tr>
<tr>
<td></td>
<td><strong>Connectable (Correlation)</strong></td>
<td>Expert evaluation</td>
</tr>
<tr>
<td><strong>Customer Experience</strong></td>
<td><strong>Empowered</strong></td>
<td>Interviews with the company</td>
</tr>
<tr>
<td>The whole customer journey should be:</td>
<td><strong>Measurable</strong></td>
<td>Interviews with the company</td>
</tr>
<tr>
<td></td>
<td><strong>Holistic (Journey-perspective)</strong></td>
<td>Track users along the journeys and get their feedback</td>
</tr>
</tbody>
</table>

Design elements like, for example, Usable and Desirable are normally measured with the help of users. These empirical user tests are conducted in a laboratory setting which makes them expensive and not feasible for a thesis (Novick & Hollingsed, 2007). The subjective and intangible nature of some design elements makes their evaluation especially problematic (Barnum, 2010). In Table 3, the elements with a high degree of subjectivity are bold faced. This means that the result of an evaluation greatly depends on the evaluated person. Somebody can, for example, perceive a service as very useful, while another person finds it useless. To find the truth, quantity (many tests) is needed which makes it expensive.

However, there are faster and more cost-efficient methods like heuristic evaluation (also called expert evaluation). It can be conducted by a single expert and the procedure is to review an artifact (or in this case a service) against a set of heuristics or principles. These heuristics are like a template which helps to uncover problems a user would likely encounter. The most famous heuristics for usability are from Nielsen and Molich (1990). They also coined the term heuristic evaluation and Nielsen (1993) revised the heuristics later to publish them in a book. The percentage of identified problems with this method varies between 30 to 90% depending on the study. Hence, it is not a substitute for actual user tests in laboratories, but the method has advantages and possible applications where user tests are unsuitable. (Novick & Hollingsed, 2007)
3.3 Research Methods

Patton (2002) lists four different qualitative data collection and fieldwork strategies: observations, interviews, case studies and document reviews. Observations are fieldwork descriptions, where the researcher documents ‘activities, behaviors […] or any other aspect of observable human experience’ (Patton, 2002, p. 5). With interviews, one can grasp the perceptions, opinions, thoughts and feelings of the interviewed person. Case studies involve a detailed examination of a subject (the case) within its context. Finally, a document review is the collection and analysis of written material about a study object.

In this thesis, case studies (with multiple data collection methods, see 3.5.1 Data collection) were conducted in combination with expert interviews. The interviews are used for two different purposes. The first purpose is to obtain feedback on the found design elements from the literature review and to ask experts how they would now apply these elements in an evaluation. There are multiple reasons to do this. It is beneficial to have a second opinion and it supports the principle of triangulation (Suter, 2012). It also follows the idea of an iterative process, where one publishes results early to get input for refinements (Stickdorn & Schneider, 2011). Finally, it helps to better build the case studies because they benefit from ‘the prior development of theoretical propositions to guide data collection and analysis’ (Yin, 2003, p. 14).

The second time where interviews are conducted is during the case studies with experts from each company. The goal is to gain an inside perspective on the issues the companies are dealing with because, eventually, the issues on both the company and customer sides will converge. Therefore, it is advisable to collect data directly from the company. Especially since the last two design elements (measurable and empowered) are best measured by company interviews. Additionally, the method of triangulation recommends cross checking multiple data sources to strengthen trust in the validity of the results (Suter, 2012).

The main method used in this thesis is the case study. It investigates a current phenomenon within its context, especially when the boundaries between the phenomenon and context are blurry (Yin, 2003). In this study, there are many variables of interest: the different channels and touchpoints a company offers and how they interact. To analyze them, multiple sources of evidence are collected. This is done by using and describing the services as a customer would. Patton (2002) argues that it is beneficial to put oneself in the affected position to better understand it. Additionally, heuristic evaluation is used as a method (see 3.2 Application of the found design elements) to combine the design elements from the literature review with the channels and touchpoints of the companies.

The case studies will hopefully show two things: first, that the design elements from the literature review are useful and right. Secondly, that there is a way to apply these elements in practice. Those are two different aspects to verify, but they correlate strongly. If the application is not possible, then the usefulness is automatically questioned.

3.4 Expert Interviews

For this study, interviews are conducted with User and Customer Experience experts and persons responsible for the design of the services from the case study companies. For both purposes, semi-structured interviews with open-ended questions are used. This means that a set of topics to talk about is defined beforehand. The questions then serve as guidelines but there is enough flexibility for both parties to cover certain aspects in depth. (Patton, 2002)
3.4.1 Data collection

Two or three interviews are planned for each purpose (see Table 4). In qualitative research, the size of the sample seldom seeks statistical significance and it is mostly purposive rather than random (Miles & Huberman, 1994). The interviewees chosen for the feedback on the design elements and their application are experts in their field. They received a shortened version of the literature review with the found design elements a week before the interview. The interviews were then conducted over phone or they gave feedback by completing a questionnaire. In Appendix B, the interview questions for the field experts are visible.

For the interviews with the company responsible, contact was established via the Institute of Information Management at the University of St.Gallen. They received the interview questions beforehand and the actual interviews were conducted in person. In Appendix C, the interview guidelines for both companies are visible.

Table 4: Details of the interviews.

<table>
<thead>
<tr>
<th>Name, Company/position</th>
<th>Interview topics</th>
<th>Type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felix Kaiser, Principal Consultant at Namics</td>
<td>The literature review with the design elements and their application</td>
<td>Phone, in German</td>
<td>45 min</td>
</tr>
<tr>
<td>Peter Bogaards, Founder of BogieLand</td>
<td>The literature review with the design elements and their application</td>
<td>Questionnaire (email)</td>
<td></td>
</tr>
<tr>
<td>Daniel Muther, Migros Head of UX</td>
<td>UX and CX at Migros, Analytics and empowerment</td>
<td>In person, in German</td>
<td>60 min</td>
</tr>
<tr>
<td>Jessica Merz, Nestlé Brand manager LEISI</td>
<td>UX and CX at Nestlé (LEISI), Analytics and empowerment</td>
<td>In person, in German</td>
<td>60 min</td>
</tr>
<tr>
<td>Bastian Heer, Vitamin2 Project leader website</td>
<td>Implementation of the LEISI website and app</td>
<td>In person, in German</td>
<td>45 min</td>
</tr>
</tbody>
</table>

3.4.2 Analysis of the data

‘A good qualitative analysis discovers patterns, coherent themes, meaningful categories, and new ideas. In general, good analysis uncovers better understanding of a phenomenon or process’ (Suter, 2012, p. 352). The recorded interviews were re-listened to identify patterns and concepts. The results of the interviews with field experts are presented in subchapter 4.1 "Expert interviews". The interviews with top company personnel are compared with other collected data and their results are presented in each case study at the end (4.2.5 Migros and 4.3.5 LEISI).

3.5 Case studies

According to Yin (2003), there are four basic types of case study designs. A researcher can choose between a single- and multiple-case design and combine it with a holistic (one unit of analysis) or embedded (multiple units of analysis) approach.

For this study, an embedded multiple-case design was chosen. Rationales for a multiple-case design are as follows: a replication of the study design with another case increases the scientific robustness, and comparisons between the cases are possible (Yin, 2003). Comparisons are especially useful because the two cases are from the food production and retail sector. The embedded approach involves multiple units of analysis which, in this study, are the different channels used to deliver the services to customers.
3.5.1 Data collection

Multiple methods to collect data were used for the case studies. They included: interviews with employees involved in making decisions about the company’s User and Customer Experience strategy (see 3.4 Expert Interviews); observations (if possible, a company's physical stores were visited or their products bought); assessments of their digital channels; and analysis of documents, especially print advertising. All this helped to prevent bias as a result of using only one single method (Eisenhardt, 1989; Yin, 2003).

The data was collected with the goal of cataloging the most important services and all channels of the companies. This is done on two different levels. First, on a holistic level, the channels used for service delivery were identified and listed. Along these channels, customer journey examples were created and presented with a modeling technique (see 3.5.2 Presentation of the data). Secondly, on a more detailed level, example touchpoints were highlighted. In summary, it can be stated that this approach wants to create a complete overall picture, but goes into detail at some points. The reason for this lies in the nature of the identified design elements. The cross-channel and Customer Experience elements demand a holistic perspective, whereas the User Experience elements are used to analyze single touchpoints.

To identify the channels and touchpoints, the following definitions are used. Channels are understood as a medium of interaction between the customer and the company. An app, website or print advertising can, for example, be a channel. Not only the medium itself is of interest, but also how it is put into context. The role of each channel in an ecosystem is an important issue to analyze (Fisher, Norris & Buic, 2012; Cao, 2014; Resmini & Rosati, 2011). Additionally, a channel can take a physical, digital or biological (for example a person) form (Resmini & Rosati, 2011).

Touchpoints are defined as the intersections between the activities of customers and companies (Belz, Schögel & Rutschmann, 2010). There are three different types of touchpoints: static (like advertising or packaging), interactive (such as a website or app) and human (for example a sales representative) (Risdon, 2013b). From a channel's perspective, a touchpoint is a single milestone within a channel. According to McMullin and Starmer (2010), the whole experience is greater than just the sum of its parts (the single touchpoints). But this statement does not mean that companies should not care anymore about the design of single touchpoints (Rawson, Duncan & Jones, 2013). The assumption is that companies are already able to deliver well-designed touchpoints and should emphasize the interaction between these touchpoints more. Therefore, this study also focuses more on the holistic perspective, but at some points single touchpoints are highlighted as well.

Companies selected for the case studies are partners from the Competence Center for Digital Consumer Business at the University of St. Gallen. The two companies are Migros and Nestlé (with a focus on its brand LEISI). Migros and Nestlé are both producers and sellers of foods and beverages. It is interesting to see the difference between a large supermarket chain (Migros) and a single brand (LEISI).

3.5.2 Presentation of the data

The data collected in the case studies will be presented in different forms. Mainly as text, but visual forms are used as well. A matrix table links the identified channels to the customer process. Additionally, customer journey examples are modeled with a combination of the service blueprint modeling technique and personas (Fliess & Kleinaltenkamp, 2004; Stickdorn & Schneider, 2011).
3.5.3 Analysis of the data

The analysis of the case study data follows a qualitative approach with the goal of improving our understanding of the phenomenon. To achieve this, Yin (2003) lists five techniques for analyzing case study evidence. These are: pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis. In this study, data is linked to propositions with the help of explanation building and cross-case analysis. Heuristic evaluation is used to analyze identified services with the design elements from the literature review.

Heuristic evaluation belongs to the usability inspection methods, which involve evaluations of an artifact by experts and not users (Nielsen & Mack, 1994). A research project from the University of Jyväskylä (Finland) gave the heuristic evaluation method the best score among all usability inspection methods (Paavilainen, 2015). In a study of the usability of ERP systems, it also proved to be more efficient than an inquiry based method with a user questionnaire (Sadiq & Pirhonen, 2014). Normally restricted to usability evaluations, Fisher, Norris and Buie (2012) used the heuristic evaluation method in their pilot case study to evaluate the cross-channel experience of a major UK retailer. Resmini and Rosati (2011) tested their cross-channel heuristics in a retail setting as well. Therefore, it seems to be suitable to also use the heuristic evaluation method for a broader User/Customer Experience and cross-channel perspective.

The heuristics are a way to check if the design elements are observed, implemented and met. But in order to do this, one has to unpack each design element into heuristics (or principles) that can be assessed. Then it is like going through a checklist. The design elements from the literature review are transformed into the following eight heuristics:

1. User Experience Honeycomb: Each touchpoint should be designed in a way that the seven facets (Useful, Usable, Desirable, Findable, Accessible, Credible and Valuable) are observed according to their prioritization. (for the definition of each facet, see 2.4.2 Design elements.)

2. Consistent (internally and externally): The experience within one channel should be coherent and adapted to the goals of the users and context. Externally, the same logic should be maintained along all channels.

3. Contextual: Information about the users' context should be collected to personalize the experience. The artifact must adapt itself according to specific users and their needs.

4. Reduction: The amount of information and choices for the users should not be confusing. Non-relevant information must be less prominent according to the use context.

5. Continual: A service has to maintain its current state no matter which channel was used.

6. Engaged: Users are involved and actively able to create value within an ecosystem.

7. Connectable (internally and externally): Relevant connections among services, products and information should be visible both internally between artifacts of the same channel and externally across channels.

8. Holistic: Overall, a holistic approach should be used for the service design.

The last two design elements (measurable and empowered) are not transformed into heuristics because they lie mostly in the companies' scope. Therefore, they are better assessed by the expert interviews. In the case studies of the next chapter, a difference to traditional heuristic evaluations is that not only problematic (and negative) things are assessed. Positive points are highlighted as well, together with ideas about what could be done better.
3.6 Credibility

Credibility in research has to do with reliability, validity, generalizability, rigor and relevance (Keller, 2014). Reliability is concerned with the data collection techniques and how they yield consistent findings (Saunders, Lewis & Thornhill, 2009). Transparency of the sense-making process is another aspect of reliability. In order to ensure this, clear research questions were formulated to guide this study. Additionally, the last two subchapters described the used research methods and how data was collected and analyzed. This promotes transparency and allows other researchers to comprehend the research approach of this study. Furthermore, a justification for each method applied in this thesis is given.

‘Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are’ (Joppe, 2000 cited in Golafshani, 2003, p. 599). To improve the validity and reliability of the research and findings, triangulation is a useful concept (Golafshani, 2003). It helps to avoid a bias as much as possible by using different methods and sources of data collection. The concept of triangulation has been applied multiple times in this study. Especially with the expert and company interviews to support the data collection in the case studies. Additionally, the phenomenon under investigation has been described with different concepts from literature (User and Customer Experience and cross-channel), which also helps to establish credibility (Shenton, 2004). Furthermore, before the data collection, it is beneficial if the researcher is already familiar with the participating organisations. According to Shenton (2004, p. 65), ‘This may be achieved via consultation of appropriate documents and preliminary visits to the organisations themselves’. The good part here is, that I (as the author of this study) am already very familiar with these companies (or brand in the case of LEISI) and have been a customer for more than 20 years.

Two other terms to describe the quality and notability of a research study are rigor and relevance. Rigor deals with the quality of data collection and analysis, transparency and proper usage of methods (Hevner et al. 2004). Relevance, on the other hand, is concerned with the actuality and transferability of the results into practice (Benbasat & Zmud, 1999). The relevance of this study is given by the fact that the research problem is well known in practice. It is a current issue for many companies (Resmini and Rosati, 2011; Fisher, Norris & Buie, 2012; Cao, 2014) and the results of this study will be transferred back into practice. Rigor should be established along with transparency and proper method usage. However, there is a lack of foundations and established methodologies in research about User /Customer Experience and cross-channel, which would be needed to be rigorous (Hevner et al. 2004; Shenton, 2004). Shenton (2004, p. 64) states that ‘methods of data analysis, should be derived, where possible, from those that have been successfully utilised in previous comparable projects’. With heuristic evaluations, one has tried to follow the pilot studies of Fisher, Norris and Buie (2012) and Resmini and Rosati (2011). They used similar heuristics to evaluate cross-channel information architecture in retailing.

The question of generalizability will be discussed after the results of the case studies in the subchapter 6.2 "Methods discussion".
4 Results and analysis

This chapter presents and analyzes the results of the data collection. The first part is concerned with the expert interviews with User/Customer Experience specialists. The results of these interviews are used to improve the case studies which represent the second and most important part. To not lose focus and present coherent cases, it was decided to combine the presentation and analysis of the case data. However, it is mainly the heuristic evaluation, built out of the design elements from the literature review, that is used to interpret the results. The other subchapters in the case studies present the pure data. Finally, a cross-case analysis supports the interpretation of the results and compares them between the cases.

4.1 Expert interviews

Interviews with experts from the User and Customer Experience field were conducted to obtain feedback on the literature review and design elements. Additionally, the interviewees were asked how to apply these elements in an evaluation. The insights gained help to build the case studies (Migros and Nestlé) in the next subchapters.

4.1.1 Interview with Felix Kaiser

Felix Kaiser is a Senior Principal Consultant for the advisory firm Namics in St. Gallen and Zurich. He is responsible for digital strategies, e-business and pervasive designs. (Namics, 2015) The following answers are from a phone interview conducted on the 28th of April (see Appendix B for the detailed questions).

Kaiser agrees with the framing of the three concepts, but he also mentions that people understand different things under the concepts, depending on their backgrounds (compare with Daniel Muther’s remarks on User Experience and usability in subchapter 4.2.5).

The second question was about the design elements. The 16 elements found in the literature review were approved by Kaiser. According to his experience from practice, no crucial element is missing.

The third question dealt with the combination of the elements from User/Customer Experience and cross-channel. Kaiser emphasized the importance of a holistic view, but said the single touchpoint is still essential for the whole experience. He compares it with usability that says: "I can do it" and User Experience which says: "I like/enjoy to do it". The same is applicable to the single touchpoint and the whole experience of a service with multiple touchpoints.

About the application of the design elements, Kaiser says that they do not have such a set of elements written down. They only have the knowledge which lies in the minds of experienced UX and interaction designers. His company, Namics, works with user-centered design methods like prototyping and they have partners for usability tests. However, he agrees that such tests and user surveys mostly measure efficiency and not the enjoyability aspect of something.

The last question was about the expert (or heuristic) evaluation. Kaiser mentioned that they use quite similar methods to rate their customers’ services or touchpoints. The results of their assessments are presented with spiderweb charts. For those charts, characteristics related to the design elements are applied.
4.1.2 Feedback from Peter Bogaards

Peter Bogaards has more than 25 years of experience in information design, information architecture and user-centered design. He is a recognized expert in his field and in close dialogue with other members of the information design community. In 2003, Bogaards founded BogieLand, an information design and architecture company, in the Netherlands. (BogieLand, 2011) The following answers are from his completed questionnaire (see Appendix B for the detailed questions).

The first question was about the perspectives of User/Customer Experience and cross-channel. Bogaards believes that the literature review outlines the perspectives well enough. However, he adds that ‘User and Customer Experience refer to emergent phenomenons in a person’. While cross-channel focuses on a perspective of "interacting with organizations".

The second question dealt with the design elements. Bogaards agrees with the identified elements, but he would explain Findable and Accessible differently. For him, Findable refers more to information and the process of search, find and use. Accessible can also be interpreted according to W3C and as a technology challenge (Gibson, 2015). These are valuable additions and Findable will be particularly focused on information (instead of user interface elements) in the case studies. Furthermore, he wrote the following: ‘I also encounter general qualifications for User/Customer Experience like successful, compelling, excellent, painless, transformational, memorable, etc. All positive big qualifiers, but how to decompose them into meaningful facets and how to design for them [is] easier said than done’. His statement is very true and additional design elements were found as well with the literature review. Memorable was, for example, mentioned by Bell (2010). But these elements are difficult to apply in practice.

The third question has to do with the combination of the elements from User/Customer Experience and cross-channel. Bogaards has the following opinion: ‘It makes especially sense because in this way you are connecting Marketing with Design. But please bear in mind what you’re designing across channels, devices and touchpoints. It’s not the experience, it’s the conditions under which experiences can take place’. This annotation is very important and helps to better understand the relationship between design elements and experience. The experience is happening in a user’s mind. It is individual and personal, and therefore very subjective. The design elements, on the other hand, can only help to build conditions where good experiences may happen.

In regards to the application of the design elements (second research question), Bogaards states that he would ‘identify observable items of a service in order to identify the design element’. This confirms the importance of first identifying services and then comparing them with the design elements. However, the approach in this study (heuristic evaluation) presents the results per element and not per service. The idea behind is the same and Bogaards also mentions Nielsen and his heuristics for Usability.

For the last question about the expert (or heuristic) evaluation, Bogaards wrote: ‘As stated before, do realize that by identifying features, UI elements or other visible characteristics of services, you’ve captured people’s experience. It will be your experience, driven by your personal history, context and tacit knowledge. It’s very hard to externalize something from somebody’s mind, heart or spirit and map it onto behavior. It’s all a matter of interpretation, intersubjectivity and reasoning’. He is right about the risk of subjectivity. With an evaluation carried out by one expert, it is unavoidable that his personal history, context and knowledge does not influence the results. But all approaches do have advantages and disadvantages and some are not feasible for a thesis without monetary support (see 3.2 Application of the found design elements). Nevertheless, Bogaards is encouraging of the heuristic evaluation approach, writing ‘give it a try! Good luck!’
4.2 Case study: Migros

The first case study is about the retail company Migros from Switzerland. It is a supermarket chain selling groceries and household products. In larger stores, clothing, toys and office utensils are sold as well. However, like many retailers, Migros has diversified its business model and also sells electronics, books, furniture, do-it-yourself products and gasoline under different store names. Additionally, the Migros cooperative also owns other companies. These companies include a bank, a travel agency, restaurants and education and fitness centres. But this case study will only focus on Migros’ grocery business, as an exploration of the whole company would exceed the scope of this study. (Migros, 2014)

4.2.1 Company description

Migros was founded in 1925 as a corporation selling groceries with five small trucks. The idea was to reach households without any access to markets and supply them with basic foodstuffs at low prices. Migros’ founder Gottlieb Duttweiler was the key person behind the company and in 1941, he transferred ownership to Migros’ customers in order to run it as a cooperative. To make profit was never the main goal of Migros and a certain percentage of the profits should always be reinvested into cultural, athletic and leisure-related activities for the society (Spiegel, 2013). Duttweiler realized early that a sustainable enterprise has responsibilities not only towards business stakeholders, but also towards the society as a whole. Therefore, Duttweiler, together with his wife Adele, published 15 propositions in 1950. With these propositions, they supported Migros’ inspirational goals and established its image and moral values. Something that still reflects Migros’ values is its refusal to sell alcohol and tobacco (Zentes, Morschett & Schramm-Klein, 2012). One has to consider these facts in order to understand what Migros stands for. Spiegel (2013) used the metaphor of 'building a world of ideas around Migros’ to describe the company's perceived image. (Migros, 2014; Migros, 2015)

Nowadays, Migros is the largest retail company and supermarket chain in Switzerland. It is Switzerland's biggest employer with 97,456 employees (Migros, 2014). The revenue of the whole Migros group was 26.4 billion CHF in 2014 (Migros, 2014). Many of the products sold by Migros are made by Migros companies. 24 companies belong to their network of producers called M-Industry. Therefore, it is not surprising that Migros' nickname in the Swiss media is the orange giant (Spiegel, 2013). The color comes from its logo with a large letter M in orange.

To understand Migros’ role in the Swiss society is essential. It has an important influence on the customers’ perception of Migros. When people in Switzerland talk about buying habits, the question is often raised as to whether you grew up as a "Migros kid" or "Coop kid" (Schlittler, 2014). The two main retailers in Switzerland (Coop is Migros largest competitor) have such a profound influence on people, that it is even possible to allocate different moral and political values to the two groups of Migros and Coop customers. According to Schlittler (2014), Coop was for a long time the favorite of the bourgeoisie. Migros, on the other hand, was more for the ordinary people. However, Schlittler (2014) believes that these differences are fading out with time because Migros and Coop are becoming more similar.

4.2.2 Identified services and channels

This subchapter lists and describes the identified services and channels of Migros. The channels are then combined in a matrix table with a standard customer process. Possible examples of customer journeys are presented in the next section.
The retail business is something one can relate to, because nearly everyone spends a fair amount of time shopping. Companies like Migros have a lot of information to manage and they need communication strategies to approach all of their customers. To do this, they usually deploy a strategy with multiple channels. (Resmini & Rosati, 2011)

Before one can identify Migros' channels, it is crucial to acknowledge that shopping is much more than just going to the store and buying products. The context of this buying process plays a very important role. It normally starts long before actually entering the store. Customers might be reading a print advertisement, getting a newsletter or hearing about special offers from friends. The customer journeys (in the subchapter 4.2.3) investigate this phenomenon in more detail. (Meyer & Schwager, 2007; Resmini & Rosati, 2011)

On a holistic level, the channels used for service delivery at Migros are the following:

- **Print**: All communication material printed on paper or other surfaces, including advertisements in magazines and newspapers, brochures, flyers, postal advertising and billboards.
- **TV/Radio**: Advertisements and information about Migros which is broadcasted over radio and TV stations.
- **Store**: All information and interaction that has to do with the physical store, including store employees, signage, product labels, positioning of the shelves and more.
- **Web**: Information and applications that are available through a web browser.
- **App**: Interaction and information available with Migros' app for mobile devices.
- **E-Mail**: Communication that happens via E-Mail, including newsletters.
- **Phone**: Communication over a phone (only call function).

This list or overview of channels is very important, but it could be valid for many retailers. To investigate the specific case of Migros, one has to go into more detail. Every channel comprises different entities and touchpoints. For example, the channel e-mail can be used to write a complaint or to receive a weekly newsletter with special offers. It is crucial to understand that a channel offers totally different touchpoints according to the service the customer is seeking. And today's customers are used to combining touchpoints as they want.

Some examples of touchpoints for the first two channels (Print and TV/Radio) are already mentioned. Migros sends a weekly magazine to all Cumulus and cooperative members, which is more than two million readers (Migros magazin, 2015). Cumulus is Migros' customer loyalty program with 2.8 million members (Spaeth, 2014). Additional magazines with a focus on lifestyle (Vivai) and seasonal cooking (saisonküche) exist as well (Migros magazin, 2015). Furthermore, the print channel comprises advertisements in various forms. The TV and radio channel is also dominated by advertisement. But Migros produces other formats as well, such as the television cooking program "Jeannette kocht" which focuses on regional products and airs on Tele 1 (Jeannette kocht, 2015). Additionally, there are journalistic reports about Migros on TV and radio.

The physical Store is still the most important channel for Migros. Groceries are only sold over this and the web channel. With a sales turnover of more than 11.5 billion in the stores, the amount of 165 million from the webshop is still slight (LeShop.ch, 2015a; Migros, 2014). However, it would be wrong to just measure the importance of a channel with sales figures. Although in Migros' case, the sore is really the hub linking all the different channels together. Cao (2014) promotes this strategy in his study about cross-channel retailers.
The single touchpoints in the store can be physical (signage, labels etc.) or human (employees). Research exists about the design of in-store touchpoints like, for example, the colors and positioning of shelves (Grewal, Levy & Kumar, 2009; Verhoef et al. 2009), but this study has no focus on this area.

The **Web** channel becomes more and more important and offers many possibilities for Migros customers. The main touchpoint is the website migros.ch with information about Migros in general, new or discounted products, the different stores and the cumulus loyalty program. Cumulus customers can login with their M-connect account to check their balance, past receipts and discount coupons. The application for searching and managing products offers similar functions like the app for mobile devices. A user can browse products and brands, add them as favorites or to a shopping list and check their availability in any store. Additionally to the main website, Migros maintains other web pages like, for example, the family portal Famigros. The two probably most important websites next to migros.ch are LeShop.ch (Migros’ online grocery store) and migipedia.ch (the community platform). LeShop offers a limited assortment of products for home delivery and to pick-up at certain locations (LeShop.ch, 2015b). On migipedia.ch, customers can add comments and ratings for Migros products. Additionally, Migros offers the community the possibility to pre-test products and come up with own ideas for new products (Grassegger, 2011). The first point of the heuristic evaluation (subchapter 4.2.4) analyzes migros.ch more in detail.

The channel **App** comprises different applications for mobile devices. For this study, the only relevant app is called "Migros". It has similar functions as the web application (on produkte.migros.ch), which is to search and manage products. It is possible to set up a shopping list and save your coupons and cumulus card. The app will also be analyzed in more detail in the heuristic evaluation (of subchapter 4.2.4).

The last two channels are **E-Mail** and **Phone**. They do not differentiate themselves from most other companies. Customers can subscribe to newsletters and use them to contact the customer service.

The last step is now to link these seven identified channels with a standard customer buying process. In reality, there is no such thing as a standard process (the next subchapter 4.2.3 Customer journeys will further discuss this), but it is still useful to see which channels can be used at certain points of the process. The different process steps (horizontal axis in Table 5) follow a customer activity cycle with a pre, during (actual purchase) and past phase (Leimeister, 2014). A red X is set if the channel can be used for this step. The hyphen - indicates that a channel can be used, but it is not designed or imagined for this step.

Table 5: The matrix table links the identified channels together with the customer buying process.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Presales information</th>
<th>Product availability</th>
<th>Advice, guidance</th>
<th>Navigating the shop</th>
<th>Purchase, payment</th>
<th>After sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TV/Radio</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Store</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Web</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>App</td>
<td>X</td>
<td></td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>E-Mail</td>
<td></td>
<td></td>
<td>-</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
### 4.2.3 Customer journeys

Three customer journey examples are created with an own combination of service blueprint modeling technique (only considering everything above the line of interaction) and personas (Fliess & Kleinaltenkamp, 2004; Stickdorn & Schneider, 2011). The customer journey examples should prove two different things. First, that customers tend to use services in various ways according to their needs and goals (Resmini & Rosati, 2011). To prove this, two extreme, but still realistic personas are created. One is the tech-savvy student Lukas (Figure 3) and the other is his opposite, the pensioner Peter (Figure 5) who does everything on paper. In the middle of these two lies Nicole (Figure 4), a young mother of two children and cooking enthusiast. The second point to prove is that a service provider cannot control every aspect of the whole customer journey (Verhoef et al. 2009). Especially the information gathering part at the beginning often lies outside of Migros influence. Consider the case of Nicole with the word-of-mouth advertising for example. On this page are the two personas of Lukas (Figure 3) and Nicole (Figure 4):

![Figure 3: The persona Lukas who uses his computer and smart phone to get information and discounts.](image3)

![Figure 4: The persona Nicole who inspires herself by browsing the Internet and watching cooking programs.](image4)
The final persona (Figure 5) is Peter, the pensioner who prefers paper over digital:

**Figure 5**: The persona Peter who still does everything on paper and enjoys spending time with shopping.

The three personas show how different customers use services of a company. All three have the same overall goal: to buy products in a Migros supermarket, but what they do before and after the actual purchase of the products is almost totally different. Along their journey, Peter and Lukas, for instance, use the same channel only once. If Lukas were to stop buying his groceries in the physical store and use the web shop LeShop.ch instead, then they would not even have one overlapping channel.

### 4.2.4 Heuristic evaluation

The heuristic evaluation is used to analyze the identified services and channels (see 4.2.2 Identified services and channels). As a first step, two example touchpoints are analyzed in order to apply the design elements from the User Experience Honeycomb. The chosen touchpoints are the already mentioned website migros.ch and the Migros app with a focus on the product search function. Heuristics two to seven are from the cross-channel concept and number eight comes from Customer Experience. They are used to analyze a whole ecosystem of touchpoints within one channel or across multiple channels. Finally, input from the interview with a responsible person are presented to highlight Migros’ internal perspective.

1. **User Experience Honeycomb**: Each touchpoint should be designed in a way that the seven facets (Useful, Usable, Desirable, Findable, Accessible, Credible and Valuable) are observed according to their prioritization.

Appendix D shows screenshots of the analyzed Migros website and app. The first step is to define the prioritization for the seven facets in the case of the Migros app and website. Desirable, Findable, Accessible and Credible could be prioritized lower for a company’s internal application, but in the B2C environment, every facet is equally important.

Useful: The usefulness of the search function is given with both app and website, but it is limited to predefined use cases. There is no possibility of modifying or customizing the search filter or user interface, except for the sorting of the results. If the user knows the name of the product, then the search field (marked with 1 in Appendix D) is much faster than the category navigation (marked with 2). In a short test, a bit more than two minutes...
were needed to search for 10 products on the website and put them on the shopping list. This is not a bad result compared with the time you need to write it on paper. And you already see the actual product range of Migros. Overall, one can say that the product search is useful for the app and website. It is also possible to combine both touchpoints.

Usable: The usability of the website is very good when searching for products. Migros uses clear and intuitive icons for the user interface. They follow common design standards which makes it easier to learn and use. The sorting of the results (marked with 3 in Appendix D) is faster than the solution of the drop-down list. Additionally, the user receives useful feedback from the system after performing certain tasks. The only tricky thing is the combination of the search field (1) and category navigation (2), which is not so intuitive at first, but great once you know how it works. Most of these points are true for the app as well. However, it is not possible to combine the search field with the category navigation in the app. This makes it much harder to find the right product in time.

Desirable: The Look & Feel of both website and app is enjoyable. The user interface is not overstuffed with items and the color scheme suits well. Most important are the product pictures and brand logos, which help to bring the whole application "to life".

Findable: The findability of certain products can be difficult. For example, if you search for "chicken" (in Swiss-German "Poulet"), then the first result is dog food and the next seven products are for babies. They all contain chicken, but it is confusing if you actually search for chicken in the sense of meat to cook. Luckily one can combine the function of the search field and the category navigation to remove the undesired categories afterwards. The overall findability of the product search function on the website is not problematic. There are four different ways to reach it. A click on the first navigation point is the easiest way.

Accessible: The website and app follow web accessibility standards. Technically both are up to date with their use of HTML and CSS. Alternative texts for pictures, lists for navigations and div elements to position the content are applied. To highlight links, the orange color from Migros' logo is used consistently and the font sizes are appropriate. However, the source code is extensive and it is questionable if a text-to-speech software (or other supportive tools) would help users with limited vision or blindness.

Credible: The customers already have a certain amount of trust towards Migros. Only cumulus members can access all of the functions on the website and app. As a member, this means that Migros knows everything about your buying behavior and even more. Sensitive data is protected with an additional password in the app. But in the end, customers have to trust Migros and their ability to protect their data.

Valuable: The website and app are both information sources for customers. They mainly support the buying process at stages before and after the actual purchase. However, the app can also be used in the store as a second channel to get additional information.

As an overall conclusion, it can be said that the two analyzed touchpoints are designed with the seven facets in mind. No element of the User Experience Honeycomb was totally ignored by Migros' app and website. The assumption that companies are already able to deliver well-designed touchpoints is reinforced through this analysis. However, there is always room for improvement and some problematic areas were highlighted as well.

2. Consistent (internally and externally): The experience within one channel should be coherent and adapted to the goals of the users and context. Externally, the same logic should be maintained along all channels.
First, the internal consistency within one channel is discussed before moving to the external consistency. A very good example of internal consistency is the web channel with its different touchpoints. Migros maintains multiple websites (see page 29 the web channel) and several approaches are used to establish consistency among them. One approach is color-codes: links are mostly orange like the logo, blue is used for cumulus (navigation points are for example blue after clicking on cumulus) and green is related to LeShop. Another approach for consistency is M-connect. It is one account with login credentials that can be used for migros.ch, LeShop, famigros, migipedia and more. Inconsistent is the product search, which can be found on the main Migros website (see the first heuristic), migipedia and LeShop. While migipedia uses the same product categorization as migros.ch, LeShop's categorization is quite different. The same product sometimes has different names. Multigrain snacks, for example, are labeled with the English name on migipedia and migros.ch, while LeShop uses the German expression. Migros acquired LeShop in 2004 and the webshop still has its own characteristics, apart from Migros other touchpoints on the web channel (LeShop.ch, 2015b). Externally, consistency across channels is achieved with similar approaches. Print and TV advertisement, labels in the store and the app also use the blue color for information related to cumulus. The same color and font is utilized for discounted products across all channels. Functionalities of the app and website are similar, but adapted to the capabilities of the channel. Scanning of barcodes on products is for example only possible with the app which makes sense. The availability check for products in a certain supermarket is not possible with the app, although it would be useful.

3. Contextual: Information about the users' context should be collected to personalize the experience. The artifact must adapt itself according to specific users and their needs.

Context adaptive and personalized bundles of services are becoming more and more important (Brenner et al. 2014). In both app and website there is a function to save the desired location. Special offers and discounts are then adapted to the customers' selected location. However, a personalization of the offers according to previous buying behavior is not in place, at least not in a comprehensive way (see 4.2.5 Interview with the Head of User Experience). Customers are offered products at prominent locations on the website and app, although they have never bought them before and likely never will. Coupons on paper are sent to every cumulus customer at the end of the month, but not according to his buying behavior or preferences. Studies like the pilot project described in the interview (4.2.5) are still the exception. To summarize, one can say that there is still a huge potential for context adaptive and personalized service in the case of Migros. Vesanen and Raulas (2006) argue that personalization is still executed from several disconnected operations and functionalities. A holistic approach would better enable the potential of personalized services and they therefore suggest that it should be seen as a process. The customization of services is only one step, analysis of customer data from different sources is a prerequisite for this.

4. Reduction: The amount of information and choices for the users should not be confusing. Non-relevant information must be less prominent according to the use context.

An information ecosystem like Migros' has to deal with an enormous amount of data about products, customers, suppliers and much more. To minimize the cognitive load for customers, this information has to be organized, clustered or focused (Resmini & Rosati, 2011). A negative example is the product search which shows products with no availability in the selected region of the customer. These results would better be hidden through a filter. An important way to cluster products is the categorization scheme mentioned for the second heuristic. It uses a taxonomic approach with two to four levels. However, the categories are sometimes confusing. Convenience food, for example, contains prepared meat
products, e.g. meatloaf, which is not findable in the ordinary category "meat", although it clearly belongs there too. A mixed classification system with a faceted model on the lower categorization levels could be a better solution. An example with too many choices is the startpage of LeShop.ch (see picture Appendix E). It would be better to focus the customers' attention on the available categories and reduce the unnecessary choices.

5. **Continual:** A service has to maintain its current state no matter which channel was used.

Continuity has to do with the notion of "flow". Every action a user takes should bring him closer to his goal no matter if he changes the channel in between (Morville, 2011). To ensure this, Migros has to maintain an infrastructure that shares the same information and data among touchpoints and channels. Additionally, updates to a database must be in real-time. Migipedia, migros.ch and the Migros app share the same data. It is immediately visible on all touchpoints when a user comments on a product. Adding a product to the shopping list or favourites is also immediately visible between the app and migros.ch website.

6. **Engaged:** Users are involved and actively able to create value within an ecosystem.

In an ecosystem, users should be provided with artifacts and contexts to co-create their own unique experiences (Caru and Cova, 2003; Caru and Cova, 2007). Resmini and Lacerda (2015) also called one of their cross-channel design values co-creation. However, the notion of co-creation is not only used across channels, but also considered for single touchpoints (Pralahad & Ramaswamy, 2004). Migros' prime example for a touchpoint using co-creation elements is Migipedia. On migipedia.ch, a community of customers discusses Migros products and other related topics. Moreover, it is possible for the community to come up with new product ideas and test products before their official introduction (Grassegger, 2011). Migros has already launched more than 50 products that were co-designed with their community (Benkő, 2014). All in all, one can say that Migipedia is the most advanced touchpoint when it comes to co-creation and customer integration. But customers also enjoy flexibility when it comes to combining their path along Migros' service offerings. They create journeys according to their needs and conveniences (see 4.2.3 Customer journeys). To provide customers with services around the clock, the concept of self-services is becoming more and more important (Penkert et al. 2014). LeShop provides customers with the possibility of placing an order for groceries at any time by themselves.

7. **Connectable (internally and externally):** Relevant connections among services, products and information should be visible, both internally between artifacts of the same channel and externally across channels.

To bridge across channels, connections are important and should be visible (Morville, 2011; Resmini & Rosati, 2011). Connections help customers to find their way across the physical and digital world. But again, it is possible to have connections within the same channel. An example, therefore, is the bottom navigation on all Migros websites (except LeShop) with links to the other sites. Across channels, the connection between the product application on migros.ch and the app is well-conceived. It is possible to browse the products at home on a PC or tablet, add them to the shopping list and check this list on the mobile phone while being in the store. The mobile phone app uses the same icon which makes the connection visible.

8. **Holistic:** Overall, a holistic approach should be used for the service design.

According to Resmini & Rosati (2011), supermarkets do not yet follow a holistic approach. Design experts work on their individual part and do not communicate with each other.
As a summary, one can say that this is not entirely true for Migros. There are efforts to bring in a more profound design approach which orientates itself more on User and Customer Experience practices. The following interview highlights some efforts of Migros’ User Experience team. It becomes clear that corporate culture is one of the biggest issues.

4.2.5 Interview with the Head of User Experience

Daniel Muther is the head of User Experience at Migros and was available for an interview on the 6th of May. The following insights are based on this interview in which Benjamin Spotthke, a PhD candidate at the University of St. Gallen, participated. Six questions were asked, the last two about the remaining design elements measurable and empowered.

The first question was about Migros' understanding of User Experience and how they differentiate it from usability. For Daniel Muther and his internal service organization, User Experience is clearly a broader concept than usability and they follow the ISO definition (ISO DIS 9241-210). However, their customers, which are other Migros departments, often do not see or know the difference between usability and User Experience. This is something Muther wants to change in the future.

His team has developed a "health checker" tool in Excel to assess the usability of a website or other artifacts. It works with usability criteria (derived from the ISO standard) and heuristics to assign a certain score to each element. Muther states that it is related to the design elements in this study, although they split their usability criteria (or elements) into 3-5 heuristics and evaluated them with a scale from 1 to 4. Finally, a color code with green and red highlights the "healthy" or problematic areas. But Muther and his team not only deals with usability issues on the surface. They know that successful projects start on a deeper level with the strategy and with a focus on the users. For that reason, Muther applies the model "Five planes of User Experience" by Garrett (2011) to explain the need for a more profound User Experience approach. Many customers or external agencies move their focus directly to the user interface etc. without discussing the underlying issues. Garrett's model helps to prevent this with another, more profound, approach.

Cross-channel and Customer Experience were the subjects of the second question. Both are very important topics for Migros and they have defined seven cross-channel journeys with different combinations such as: order online and pick it up; buy it in store, but send it home etc. Muther's team conducted a mystery shopping study to examine these journeys. The findings show that not all combinations were demanded by the customers and some touchpoints were not adjusted to the rest. A salesman, for example, had no idea that it was possible to send a product home even though Migros offered this option. Furthermore, consistency was a big issue with wrong logos and other small things that challenge and frustrate customers.

Muther's team also developed customer journeys. Most recently they did this for dog owners because the sales of dog food was declining. They found out that customers need and use different touchpoints according to the age of their dog. Two personas were identified and validated with questionnaires. The amount of different touchpoints (veterinarian, dog club, pet laundry etc.) surprised Migros' UX team. After listing the customers' touchpoints, they compared them with Migros’ offerings and realized that only one touchpoint was covered by Migros. This touchpoint was the point of sale in-store. The survey showed that customers were not satisfied with the location of the dog food. Migros' UX team gave recommendations for improving the situation. One idea was to give out flyers at the veterinarian or dog club. In a pilot project, tablets were installed at the point of sale to provide cus-
customers with a possibility for consulting and additional information. Additionally, the weight of the products (some over 10 kg) was an obstacle and QR codes to quickly order them home via LeShop could be a solution. All these recommendations found an echo and proved to be valuable. Customer Experience helps Muther to design a service from A to Z and it is not only the point of sale which is responsible for the customers’ satisfaction.

The developed personas (see 4.2.3 Customer journeys) for Migros were also confirmed by this interview with Muther. A mother with a family (see Nicole) is the main persona for them and they also have a student like Lukas who is focused on discounted products. Muther identifies the last persona Peter as their non-persona, because he is not reachable via digital channels.

Personalization of services is another important topic for Migros. Muther spoke of a pilot study with facial care products. Based on customers’ shopping behavior, Migros' tried to convince them to buy another brand by distributing personalized coupons. It was possible to move customers into a different segment. Another approach is to track website users over M-connect to provide them with more suited offers. Personalization is a very important issue and much is yet to come. A stronger connection between the UX and customer analytics department would be very beneficial according to Muther.

The fourth question was concerned with the consistency between the different channels. According to Muther, first steps in this direction have already been made with the connection between the product finder on the website migros.ch and migipedia. However, the most important use case is still missing or incomplete. Customers want to buy the products, but the link to LeShop.ch is not always there or not working. Overall, it is not consistently implemented and Muther says this is due to Migros functional silo structure where no central orchestration is in place. But Muther is confident that this will be solved in the future.

The point where Muther has a hard time is the cultural change inside the company. He has to "sell" his methods to other Migros departments which requires a lot of energy. Many managers or project leaders want to reduce costs and do not spend money for a profound User or Customer Experience approach. Market research is often cheaper, but Muther also questions the usefulness of it. It answers the "what" question, but leaves the "why" open. The partly outdated organizational and management structures are another barrier. An idea to improve the sale of dog food was, for example, to affix dog paws on the floor. A simple idea in principle, but it had to be approved by a couple of committees and the store planning. Ultimately, it is important to measure a return on investment which is often very difficult for User and Customer Experience measures.

**Measurable:** According to Muther, there is no extensive measurement system in place. Some touchpoints like webshops have statistic and use key performance indicators such as the conversion rate. But a qualitative customer satisfaction survey is often too expensive, even though Muther knows of cases where it would have been useful.

**Empowered:** Migros' UX team recently went through a reorganization process. They are now positioned as a full-service agency with internal developers, strategists, UX experts and marketing specialists. This organization structure allows them to work interdisciplinarily and to tackle projects from the beginning until the end. Additionally, an agile way of working is crucial for Muther. Unfortunately, this reorganization happened just now and therefore it's too early to draw conclusions. But Muther is confident that this is the right strategy to avoid functional silos and to slowly change the above mentioned organizational culture.
4.3 Case study: Nestlé with a focus on LEISI

The second case study is about a brand of Nestlé S.A. Nestlé is a multinational food company from Switzerland. It is the largest food company in the world with a revenue of almost 100 billion CHF (Shotter, 2014). Nestlé manufactures and supplies milk-based products, prepared dishes, cooking aids, baby food and much more (Forbes, 2014). Among its brands are Nescafé, Kit Kat, Buitoni, Maggi, Nestea, Movenpick, Perrier and Nespresso. This case study is about a less-known, but not unimportant, brand called LEISI.

4.3.1 Brand description

LEISI is a Swiss food manufacturer with its production location in Wangen close to Olten. It was founded in the year 1938 by Werner Leisi in Basel. The main product was and still is dough for baking. The demand was so high only one year after the launch that Werner Leisi had to use machines to produce the dough. This was a pioneering achievement and his dough was sold all over Switzerland after the war in 1945. LEISI launched a series of new products such as puff pastry, ready-made cakes and a pre-rolled dough on baking paper. The pre-rolled dough called LEISI Quick was promoted as the world's first product of this kind. Its advertising slogan is one of the top ten legendary slogans in Switzerland (SRF, 2015). "Quick" remains LEISI's main product (Oertlé, 2003). Nestlé acquired LEISI in 1971 and the merger agreement (1997) disbanded LEISI as a company. Today, it is an important Nestlé brand and the production facilities are the largest of Nestlé in Switzerland (Oertlé, 2003). More than 90% of the production is exported to other countries like Italy, Spain and Germany. But the products are then mostly sold under different brand names (Oertlé, 2003). This case study will only focus on the LEISI brand in Switzerland which received a modernization in 2008 with a new logo and packaging concept. (LEISI, 2015a)

4.3.2 Identified services and channels

This subchapter lists and describes the identified services and channels of LEISI. The channels are combined in a matrix table with the identified services at the end of this subchapter.

LEISI also operates in the food sector like Migros, but their business models are quite different. The supermarket chain Migros covers all steps of a typical retailing process for a customer. LEISI, on the other hand, focuses on the production and marketing without selling products directly to end customers. Retailers like Migros and Coop buy products from LEISI to sell them in their stores. LEISI is upstream on the value chain if you compare it with Migros supermarket. Nevertheless, LEISI provides services for and interacts with its end customers. It deploys a marketing strategy with multiple channels for end customers. To simplify the following part of the case, LEISI's "end customers" are just termed as "customers" and the intermediary trade will not be analyzed.

It is important to acknowledge that shopping is much more than going to the store and buying products. The context of this buying process plays a very important role. It normally starts long before actually entering the store. In LEISI’s case, potential customers might be eating a pie (made with a LEISI dough) and like it so much that they buy it as well. Or they receive a recommendation from someone about baking with LEISI products. There are many different ways to get in contact with LEISI products. Advertisement in the TV or seeing the products in the retailer’s stores are probably the most common ones. The customer journeys (in the subchapter 4.3.3) investigate this phenomenon in more detail. (Meyer & Schwager, 2007; Resmini & Rosati, 2011)
On a holistic level, LEISI's channels used for service delivery are the following:

- **Print**: All communication material printed on paper or other surfaces. Especially advertisements in magazines and newspapers.
- **TV**: Advertisements and information about LEISI which is broadcast on TV.
- **Store/Packaging**: All information and interaction that has to do with the physical product in the store. This includes signage, product labels and packaging.
- **Web**: Information and applications that are available through a web browser.
- **App**: Interaction and information available with LEISI's app for mobile devices.
- **E-Mail**: Communication that happens via E-Mail, including newsletters.
- **Phone**: Communication over a phone (only call function).

Every one of these channels comprises different touchpoints. The e-mail channel, for example, can be used to write a complaint or to receive a weekly newsletter. It is crucial to understand that a channel offers totally different touchpoints according to the service the customer is seeking. The following part highlights the most important LEISI touchpoints:

LEISI is famous in Switzerland for its TV advertisements in the 80s about the pre-rolled dough "Quick". It has produced more TV spots since then (LEISI, 2015b) and LEISI is regularly present in the Print media (especially of the retail partners) with advertisements.

The physical Store plays a different role for LEISI than for Migros. They cannot control many aspects of the environment, because a retailer sells their products. Therefore, the packaging of the products becomes more important (see pictures in Appendix F).

The Web channel comprises the website leisi.ch, its facebook fanpage and the community page Nestlé family. The main touchpoint is leisi.ch with information about LEISI in general, its products, baking tips and recipes. Additionally, temporary promotions are used to get more visitors on the website. The first point of the heuristic evaluation (subchapter 4.3.4) analyzes the leisi.ch website more in detail.

LEISI developed a Hybrid-App for customers which displays the content of the leisi.ch website. The website is responsive and therefore offers the same functions on the app.

The last two channels are E-Mail and Phone. They do not differentiate themselves from most other companies. Customers can subscribe to a newsletter and contact customer service. The phone number on the product leads to a customer service agent for LEISI.

The matrix table below links the seven identified channels with LEISI's services:

Table 6: The matrix table links the channels with the identified services from LEISI.
Table 6 shows four services (on the horizontal axis) that LEISI offers to customers. These services are added value besides the product and another reason why customers interact with the brand. In Migros’ case, a standard customer buying process was utilized. But LEISI only offers some services out of such an activity cycle. Table 6 depicts which channels can be used for a certain service. A red X is set if the channel can be used. The hyphen indicates that a channel can be used, but it is not designed or imagined for this service.

4.3.3 Customer journeys

Two customer journey examples are created with an own combination of service blueprint modeling technique and personas (Fliess & Kleinaltenkamp, 2004; Stickdorn & Schneider, 2011). Julia (Figure 6) is a spontaneous baker who needs more information in the store. Jonathan (Figure 7) is a passionate cook and baker who searches for inspiration at home on his computer. Both journeys prove again that customers tend to use services in different contexts and ways according to their needs and goals (Resmini & Rosati, 2011).

Figure 6: The persona Julia who decides spontaneously to bake and she uses the app in the store for recipes.

Figure 7: The persona Jonathan who searches for inspiration and ideas at home on his computer.
4.3.4 Heuristic evaluation

The heuristic evaluation is used to analyze the identified services and channels (see 4.3.2). As a first step, two example touchpoints are analyzed in order to apply the User Experience Honeycomb. The chosen touchpoints are the website leisi.ch and the responsive app with a focus on the recipe search function. Heuristics two to seven are from the cross-channel concept and number eight comes from Customer Experience. They are concerned with a whole ecosystem of touchpoints within one channel or across multiple channels. Finally, insights from the two interviews with responsible persons for LEISI are presented.

1. User Experience Honeycomb: Each touchpoint should be designed in a way that the seven facets (Useful, Usable, Desirable, Findable, Accessible, Credible and Valuable) are observed according to their prioritization.

Appendix G shows screenshots of the analyzed LEISI website and app. The prioritization of the seven facets is a bit different for the recipe finder. Credible can be prioritized lower (explanation follows below), but the other facets are all equally important.

Useful: LEISI’s customers have a similar goal in mind. They want to bake something with a LEISI product. The difference is that some of them have a precise idea what to bake and others not. The recipe finder on the website and app is particularly useful for those who are undecided. It is possible to find recipes with a search field and filter with four categories. The categories are dough type, recipe type (cake, cookies, quiche etc.), course (aperitif, entrée or dessert) and season (winter, spring, summer or fall). It is certainly useful to have this category filter and the amount of available recipes is adequate. In summary, it can be stated that the recipe finder is useful for users who are undecided or searching for inspiration.

Usable: The functionality of the recipe finder is not that complex. However, there are things one needs to know, or figure out, in order to use the finder smoothly. A selection of multiple attributes for the category filter is, for example, not possible. Users also cannot combine the search field and category filter. Migros’ product search allowed this combination for instance (look at page 32). Furthermore, there is no message when the search term or filter leads to no results. All these points reduce the ease of use, but not severely.

Desirable: The Look & Feel of both website and app is good. However, there are three points to criticize: The two image slideshows on the startpage with different timings feel restive. The pictures of the "recipe favorites" are too small for the phone. Additionally, the startpage is overloaded with too many elements, especially on the phone.

Findable: The recipe finder returns the search results in a first section while below are two additional sections with six other recipes without any relations to the entered search term or filter. Those six recipes are always the same and they stay there even if you find them in the results above as well. Overall, the search engine optimization (SEO) was very important which partly explains the overloaded startpage (for this, see also 4.3.5 Interview).

Accessible: Web accessibility standards are obeyed and the HTML/CSS code is up to date. The font-sizes are larger than average which helps users with a bad sight and the website and app are fully responsive for mobile, tablet and monitor screen resolutions.

Credible: For LEISI’s website and app is credibility not that important. A website user must enter sensitive data only when he participates in the promotions. The two touchpoints offer services (mostly the provision of information) in addition to the product itself. It is more important that the customers trust the quality of the product and the LEISI brand in general. The content on the website can certainly help to build trust as well.
Valuable: Website and app are both information sources for customers. The services are an addition to the product and a possibility for LEISI to intensify customer interaction. Furthermore, the app can be used in a store as a second channel to get more information.

As a conclusion, it can be stated that the two analyzed touchpoints are designed with the seven facets in mind. No element of the User Experience Honeycomb was totally ignored by LEISI's app and website. The usability, desirability and findability have the largest potential for improvement, but it is more about fine tuning than large changes.

2. Consistent (internally and externally): The experience within one channel should be coherent and adapted to the goals of the users and context. Externally, the same logic should be maintained along all channels.

The internal consistency within one channel is given and there is no channel with several touchpoints. The websites leisi.ch and facebook.com/LEISI.ch are well-matched. Externally, the consistency across channels is almost too strong with the app as a "copy" of the website. The app is not adapted to the strength and benefits of the respective channel. Morville (2011) describes it as a balance between the usage of features among the platforms or channels. In LEISI's case, it is the website that drives the design decisions. With responsive websites, developers have to choose between a "desktop first" or "mobile first" approach and LEISI was more on the desktop side (B. Heer, interview, 2015-05-01). Until 2014, LEISI had a native app with different functionalities (SensorTower, 2013).

3. Contextual: Information about the users' context should be collected to personalize the experience. The artifact must adapt itself according to specific users and their needs.

The analysis of customer data from different sources is a prerequisite for personalized services. LEISI cannot collect as much data as Migros, but there is a certain potential. For instance, it would be possible to track a customer's buying behavior with promotions. Customers who participate in the promotions have an account and often subscribe to the newsletter. LEISI could address those loyal customers with tailored advertisements and recipes. Even easier is the use of context information. There is, for example, quick access for app users to find recipes faster. However, this specific information for app users is visible for those with higher resolutions as well. A context-sensitive website would prevent this.

4. Reduction: The amount of information and choices for the users should not be confusing. Non-relevant information must be less prominent according to the use context.

Reduction wants to minimize the cognitive load for customers, which can be a problem especially with digital touchpoints. Overall, LEISI's website has too much content. The startpage contains two image slideshows, the recipe search, three quick access links, two content sections, special offers, another two recipes in addition to those from the slideshow and a large facebook and newsletter link. In particular, the second content element and the additional recipes are too much for a small resolution on a phone.

5. Continual: A service has to maintain its current state no matter which channel was used.

The most comprehensive service of LEISI is the promotion. Customers collect codes from the products, login to the website (on a desktop computer, tablet or phone), enter the codes and check their balance (see Appendix H for screenshots of the 2014 promotion). If they have enough codes, it is possible to order a gift card from a webshop selling toys. This is a cross-channel service with the packaging of the products, the website or app and email
as mandatory channels. The user can always check his balance after the login and it is possible to continue collecting codes after an order for a gift card was placed.

6. Engaged: Users are involved and actively able to create value within an ecosystem.

LEISI fans are actively involved on the facebook page (facebook.com/LEISI.ch). They are asked to post pictures of their creations and it is possible to share recipes with other baking enthusiasts. The community is very active and LEISI keeps them entertained with riddles about recipes or ingredients, selfie challenges and other games or topics around baking. In the future, it plans to establish an even stronger community with more touchpoints than facebook (J. Merz, interview, 2015-05-08).

7. Connectable (internally and externally): Relevant connections among services, products and information should be visible both internally between artifacts of the same channel and externally across channels.

Connections within the same channel are most important for the web. Links to facebook and the Nestlé family have a prominent location on the main website. Across channels, it is the physical product that offers connections to the app and website with the promotions and newsletter. The packaging contains QR codes for the recipe search and sticker-like images to promote the app (see Appendix F, the bottom right picture promotes the app).

8. Holistic: Overall, a holistic approach should be used for the service design.

As a summary, one can say that LEISI tries to establish its brand as a valuable "contact point" for baking enthusiasts. They want to cover more touchpoints along their customers' journeys. Just providing the product is not enough. Additionally, they search the interaction with their customers on facebook. There are some parts where connections between touchpoints or channels could be even more valuable. For example, between the website and facebook page. At the moment, most of the interaction with users is limited to facebook. However, there is a huge potential to expand this cooperation and use their generated content in other places.

4.3.5 Interview with the Brand Manager of LEISI

Jessica Merz is Nestlé's brand manager for LEISI and was available for an interview on the 8th of May 2015. Additionally, contact was established with VITAMIN2, the advertising agency responsible for the development of the website and app. The following insights are based on these two interviews. First, the five questions for Jessica Merz with the remaining design elements measurable and empowered are presented. Then a short summary of the discussion with Bastian Heer from VITAMIN2 follows.

The first question was about Nestlé's understanding of User Experience and how they differentiate it from usability. For Jessica Merz, User Experience goes further than usability. The company tries to analyze its touchpoints from a user's perspective and assess the experience and flow for the users. But in LEISI's case, User Experience is mainly restricted to digital touchpoints like the website. Although it could be used for static (like advertising or packaging) and human (for example the customer service) touchpoints as well.

Cross-channel and Customer Experience were the topics of the second question. Cross-channel is more understood as the multichannel concept. The release of information (special offers, promotions etc.) across channels is, for example, arranged and timed. But there are upcoming efforts to provide customers with a second touchpoint (from another channel) at the point of sale. A brochure with a discount coupon and seven recipe ideas (with
listed ingredients) will be next to the LEISI products. Additionally, there are events planned at the point of sale with tasting of baked goods and the option of consultation about LEISI products. 70% of buying decisions for LEISI happen in-store. This confirms the importance of the developed persona Julia (Figure 6 on page 39).

Customer Experience (LEISI calls it Consumer Experience, because of the retailers in between) wants to intensify interaction with customers. Providing additional services along the customer journeys only makes sense when they generate value for customers. According to Merz, it is not easy to identify rewarding use-cases. LEISI, for example, offered a native app until 2014 with more functions, including a shopping list and seasonal calendar. However, the only function frequently used was the recipe finder. It was therefore decided to withdraw this maintenance intensive native app and offer a responsive website which serves as an app too. In the future, some functions of the previous native app might be reintroduced.

The third question dealt with the connections of the different channels and touchpoints. Many things are happening on the website and facebook fanpage, but there is not yet a strong exchange between these touchpoints. Merz assures that they plan to change this in the near future. According to Merz, a good way to work across channels is through discount coupons. With them it is possible to motivate customers to purchase via different channels. On the website, for example, are links to coop@home (delivery service of Coop) and LeShop.

**Measurable:** They measure the classical indicators like visited pages, dwell time and bounce rate. These indicators only be useful to identify User Experience problems. The customer service or the responsible person for facebook can respond to complaints and feedback. If a problem occurs continuously, it might be because of a design error. However, an extensive measurement program along the whole customer journey is not in place.

**Empowered:** A small team is responsible for LEISI and the digital touchpoints (website, newsletter and facebook) are not maintained by the same person. This demands for communication plans and consistent actions. A User Experience expert is not present in-house, but partnerships are established with external agencies to get support when needed. Additionally, Nestlé provides its own experts from the headquarters in Vevey.

A topic discussed with Jessica Merz and Bastian Heer was the startpage with the balance between SEO and usability. It is always a tradeoff between a better ranking (which means more content is needed) and not overwhelming users with too much content. For LEISI, the main priority is the SEO ranking.

According to Heer, User Experience was not a major topic during the design and implementation phase of the website. The involved agencies developed concepts (sometimes together in workshops) for the website and Nestlé approved them. Usability tests were not conducted because of the large costs. The agencies mostly relied on their previous experiences instead of applying user centered design methods. This was not because of a disbelief in their usefulness, but because of the associated costs. Overall, one could argue that the website as app is not the perfect solution. But in the business world, compromises are sometimes needed.
4.4 Cross-case analysis

LEISI provided a case with less complexity than the one from Migros. It was easier to comprehend the needs and goals of its customers because they had fewer possibilities. On the other side, it is more difficult for LEISI to cover an extensive part of their customers’ journeys. Their business model and focus on the production and marketing with retailers as partners is not the same initial situation as Migros has.

However, in summary it can be said that the difference between a single brand and a large supermarket chain is not immense. LEISI operates on a smaller scale, but the considerations regarding User Experience, cross-channel and Customer Experience are rather similar. This is due to the fact that design considerations are applicable to different levels of depth. On a "User Experience level", the focus is on a single artifact like a website. Therefore, it is not a huge difference to analyze the migros.ch or leisi.ch website. The Migros website has much more functions, but the basic elements such as a top and bottom navigation, image sliders, links and search functions are similar. Most websites follow the same standards that have been adopted for HTML and CSS based artifacts. If you move to the broader Customer Experience concept, the differences between Migros and LEISI become more apparent. It would have been easy, for example, to develop additional customer journeys for Migros. But for LEISI, the possibilities to interact with its end customers are limited. The reason for this is that they simply cover less touchpoints for customers with their dough products. A supermarket chain like Migros plays a much more important role for customers.

Nevertheless, LEISI does a lot of things and Migros could learn from them in the context of presenting recipes. Other supermarket chains like ICA and Coop from Sweden have their section for recipes on a more prominent place on their website (ICA, 2015; Coop, 2015). One of the developed personas for Migros called Nicole (see 4.2.3 Customer journeys) would, for example, be interested in such recipes. In the interview, Muther highlights the importance of this persona focused on cooking. However, Nicole would be disappointed after searching for recipes on the migros.ch website. Migros has saisonküche for recipes, but this website and its content is unfortunately not linked to the rest of Migros' ecosystem. For LEISI, the recipes are the main reason that customers use their website and app. Additionally, on LEISI's facebook page, conversations revolve around a social object (baking and recipes) which is a good way to keep users entertained (McDonald, 2009).

Muther mentions in the interview (2015-05-06) that it would be very valuable to share these recipes among the touchpoints (e.g. migros.ch, migipedia and the app), however saisonküche does not want to release its content and cooperate with other Migros departments. Especially the shopping list (on Produkte.migros.ch and the app) would provide a huge potential in combination with the recipes from saisonküche. An automated algorithm could propose possible recipes according to the products in the shopping list.

As reported by Merz, LEISI uses Migros as a benchmark (J. Merz, interview, 2015-05-08). They review how other companies designed their service offerings and Migros is an example for them. But often there is not enough budget to develop similar solutions. Nevertheless, searching for inspiration is useful and it is good to know what the competitors (or partners) are offering.
5 Conclusion

This chapter builds on the results and analysis of the interviews and case studies from the previous chapter. The conclusion answers the two research questions and summarizes the most important insights of this study.

5.1 Answer to the first research question

RQ1: Which design elements have a positive influence on the service experience of consumers?

In total, 16 design elements were found in the reviewed literature. User Experience provided the most with seven elements. Cross-channel had six and Customer Experience three additional elements.

**User Experience:** Useful, Usable, Desirable, Findable, Accessible, Credible and Valuable

**Cross-channel:** Consistent, Contextual, Reduction, Continual, Engaged and Connectable

**Customer Experience:** Holistic, Measurable and Empowered

However, this list from the literature review has no claim of being complete. Additional design elements were found but not included because they were not mentioned by multiple sources (see table 1 on page 9 and Appendix A). The investigated problem field draws concepts and notations from various disciplines and studies. This multidisciplinarity makes the collection of design elements a very difficult assignment. But there is confidence that the most important elements are included in the list above. This confidence was assured through the expert interviews (see the answers to the second question in 4.1 Expert interviews) and the exchange of results with the two case study companies. Furthermore, all 16 design elements proved to be useful in their application in the case studies.

The Customer Experience concept has only provided three additional design elements. Previously mentioned design elements from User Experience and cross-channel were discussed as well in some articles about Customer Experience (see Appendix A), but it is still surprising that such a comprehensive field of study only marginally deals with specific design requirements. Reasons for this likely lie in the nature of the concept. The holistic and broader perspective makes it a high-level concept that is not concerned with specific design elements anymore. One could argue that User Experience and cross-channel already covered these "design considerations" and Customer Experience comprises the other two concepts. Customer Experience complements the other two with another perspective (Holistic) and not so much with new design requirements. **Empowered** and **Measurable** come in addition, because this holistic perspective also looks at how the company operates. In a strict sense they do not belong to a study from a consumer's point of view. However, these two design elements help a company to better understand its customers (**Measurable**) and to get ideas of how to avoid functional silos (**Empowered**). In the end, the customers benefit as well from these two design elements.

In summary, it can be stated that all three concepts complement each other very well. User Experience is concerned with single artifacts on a detailed level. Cross-channel expands the perspective on ecosystems of artifacts, but still with a design focus. Finally, Customer Experience analyzes the whole company and its touchpoints on a customer's journey. These facts confirm again that it makes sense to combine their design elements. Reichelt (2012), Anhalt (2013) and Bogaards (2012) already saw a huge potential for a collaboration between User and Customer Experience experts. This study confirmed their views by combining the perspectives and design elements of these fields and concepts.
5.2 Answer to the second research question

RQ2: How can these design elements be used to analyze a company’s service offerings, including possible touchpoints between the company and their customers?

Before answering the research question, it is important to understand that the approach from this study with the heuristic evaluation is only one possible option. It proved to be a useful way to apply the design elements from the first research question. But there are other possibilities like a user testing which may lead to different results. This is also the reason that this study was divided into two parts. The first part with the design elements as a result of the literature review and the second with the application of these elements using the heuristic evaluation method in two case studies.

In summary, it can be said that the heuristic evaluation (as conducted in the two case studies) is the answer to the second research question. It is a usability inspection method, but it can also be applied in a broader context like User and Customer Experience. With the method, a collection of services is reviewed against a set of heuristics. In order to do this, one had to unpack each design element into heuristics that can be assessed (see page 23). However, the method applied in the case studies was not only the heuristic evaluation. The evaluation brought in the design elements, but first it was crucial to identify the channels, services and the most important touchpoints. Additionally, personas and customer journeys helped to understand the users' needs and goals. These preparatory tasks were necessary for properly conducting the heuristic evaluation.

The crucial point of the heuristic evaluation, which was developed for this study, is that it takes all three concepts from the literature review into account. With the first heuristic (UX Honeycomb), it is possible to analyze single touchpoints (like User Experience demands). Number two to seven are all within a cross-channel context. Finally, the last heuristic (Holistic) is responsible for the perspective on whole journeys (from Customer Experience). Rawson, Duncan and Jones (2013) stated in their subtitle: "Touchpoints matter, but it's the full journey that really counts". The heuristic evaluation in this study is able to analyze both, it can remain on a holistic perspective, but it is also possible to "go a level deeper" to analyze single touchpoints.

Furthermore, the interview with Daniel Muther (see subchapter 4.2.5) confirmed the approach of the heuristic evaluation. Migros' UX team developed a health checker with similar criteria (or elements) from the ISO 9241 definition. Consistency, usability and desirable are, for example, criteria that are used as well by Migros. These criteria are then divided into 3-5 sub-criteria and transformed into heuristics. "Checkpunkte" is the German word they use, but they are like heuristics. With them, it is possible to assess touchpoints on a four point scale. Satisfied (best practice or okay) and not satisfied (barely sufficient or blocker) are the four characteristics. Finally, the automated Excel-File calculates grades and highlights results in green or red color. According to Muther, this is a good and easy way to do a first assessment. They can also apply the health checker differently according to the use case. A webshop with a checkout process, for example, is more focused on efficiency and the health checker takes this into account. In summary, it can be stated that the approach behind the health checker is closely related to the heuristic evaluation. And that fact reinforces the perceived utility of the heuristic evaluation in this study. Because it cannot be entirely wrong when a large company like Migros uses something similar.
6 Discussion

The last chapter is about the interpretation of the case studies and their results. It reflects on the methods used to conduct the case studies. In addition, the chapter helps other researchers to further investigate this problem space.

6.1 Results discussion

The purpose of this study was to learn more about the consumers' interaction with companies over different channels. It was conducted from a consumer's point of view, but the insights gained through this study will help companies to design and build better services. In this context, the concepts of User Experience, cross-channel and Customer Experience provided a theoretical framework. The new approach of this study was to combine the three concepts, their framing and their identified design elements (see page 17). This conceptual framing is the answer to the first research question.

However, the conceptual framing provided no answers on how to apply these 16 design elements. In the methodology chapter, possible approaches were discussed. Especially the heterogeneity of the elements and their measurability were an obstacle (see page 19). Nonetheless, a customized version of a usability inspection method promised the best results. Hence, the heuristic evaluation used in the case studies is the answer to the second research question. This modified method takes all three concepts from the theoretical framework into account. With the first heuristic, it is possible to analyze single touchpoints. Number two to seven are all used within a cross-channel context. Finally, the last heuristic is responsible for the holistic perspective on whole customer journeys.

The case studies were then conducted to verify the answers to both research questions. All the 16 design elements proved to be useful, but some problems were encountered during the case studies (see heuristic evaluation on the next page). Additionally, it was important to do preparatory tasks before the heuristic evaluation. The identification of the channels, services and touchpoints together with the personas and customer journeys was very useful. The two case studies lead to results which are helpful for Migros and Nestlé. Both interview partners (Daniel Muther and Jessica Merz) received the heuristic evaluation for their company and were thankful. The overall conclusion of this study is that the three concepts complement each other very well (see page 45 at the bottom). User Experience is responsible for well designed touchpoints. Cross-channel expands the perspective on ecosystems and evaluates how the touchpoints operate together. Finally, Customer Experience analyzes the whole company and its touchpoints on a customer's journey.

During the case studies, new issues arose in connection with the design elements and their context. A short reflection of the insights from the case studies includes the following:

For the design elements, it is not only important to be applicable across channels, but also between touchpoints of the same channel. There are three different types of design elements: 1. Applicable only for single touchpoints, 2. Applicable across channels (for multiple touchpoints) and 3. Applicable in both cases.

Additionally, this study helped to better understand the differences between services, touchpoints and channels. In some cases, a single touchpoint can be a service for itself. But there are other cases where a service spans across multiple touchpoints belonging to several channels. It is important to acknowledge that a channel offers totally different touchpoints according to the service the customer is seeking.
6.2 Methods discussion

This subchapter first reflects the methods used for the case studies and then notes how important it was to combine them. Furthermore, credibility and generalizability are discussed.

The interviews with the field experts and company responsibles were useful to get a second opinion and feedback on the results. With the User and Customer Experience experts, it was possible to receive an early feedback during the development process. This feedback was valuable, because it allowed to adapt the method for the following case studies. The contact with the companies helped to verify the findings from the heuristic evaluation. However, the timing of the interviews with the companies was not an easy decision. On the one hand, it was beneficial to contact them with the promise of results from the heuristic evaluation as an incentive for their participation. On the other hand, it would have been better to connect with them as soon as possible.

Customer journeys were created with an own combination of service blueprint modeling technique and personas. The customer journey approach is common among practitioners and researchers to support the design of services. Migros' UX team followed a similar approach to identify the touchpoints of customers owning a dog (see page 35 at the bottom). The conclusion about this method is very positive. It proved for Migros and LEISI, that customers are using services in various different ways according to their needs and goals. They combine touchpoints and switch from one channel to another.

Overall, the heuristic evaluation proved to be a useful method for applying the design elements (see page 46). Nevertheless, problems were encountered during the evaluation. The prioritization of the facets for the first heuristic was, for example, not really beneficial. In most cases within the B2C environment, it is assumed that every facet is equally important.

Even more problematic were the boundaries between User and Customer Experience design elements. It was not always clear what an element exactly covers and there is sometimes an overlap between them. Consistency, for instance, has a lot of connections to other elements. If you improve the consistency of a user interface, then it becomes easier to use. But which design element was responsible for the improvement? Consistency, Usable or both? The latter is probably the best answer to the question.

Altogether, it was very beneficial to combine the heuristic evaluation with the interviews as one method alone would have been insufficient. The heuristic evaluation helped to get a "feeling" for the application of the design elements. Questions came up that would never have occurred without trying to apply the elements in practice. Design related questions can often not be solved just by talking or thinking about them. Really working with the design elements led to an improved understanding of the problem space. However, this is not to decry the interviews. They provided a valuable second opinion, which lead to new ideas and understandings.

The case study method has some disadvantages when it comes to the generalizability of the findings (Gagnon, 2010). It is not possible to generalize the results of this study to other settings. The two cases were quite different and had many unique aspects. Migros is a large supermarket chain and LEISI a brand owned by Nestlé. More cases would be needed to draw generalizations. However, then it becomes extremely difficult to establish comparability between them (Blaikie, 2009).
6.3 Implications for research

This study followed an exploratory approach, especially with the application of the design elements. The insights gained through this study will give researchers and practitioners a clearer idea about the requirements needed to design services in multi- and cross-channel environments. Its results contribute to research in areas related to the three investigated concepts. However, the academic grounding needs to be enhanced in some fields. The researcher community still struggles to find consistent notations and definitions for their objects of investigation. This study can hopefully contribute to a better understanding of the investigated concepts. Furthermore, the presented approach with the heuristic evaluation should animate the discussion about possible ways of applying design elements.

A specific implication of this study is the support for researchers and practitioners demanding a closer cooperation between User Experience and Customer Experience experts. Reichelt (2012), Anhalt (2013) and Bogaards (2012) already saw a huge potential for designers in these two fields to learn from each other and exchange their knowledge. After combining insights from these fields together with cross-channel to a conceptual framing, it can be stated that they complement each other very well. Hence, this study confirms the researchers’ demands for a closer cooperation between experts of the two fields.

6.4 Implications for practice

The most important advice for practitioners is the same as the above mentioned implication for the research. It is very important to combine experts of different areas into a team responsible for designing services. Only a holistic approach with a focus on customer journeys, but also on single touchpoints allows companies to deliver convincing services. According to Daniel Muther, it is more the broader perspective from Customer Experience that designers are missing (Interview, 2015-05-06). They focus too early on concrete problems before properly assessing the needs and goals of their users. Altogether, this leads to functional silos and incautiously designed services which are often mentioned in the literature.

Furthermore, detailed results about the two case studies are transferred into practice. The interview partners from Migros and Nestlé received the heuristic evaluation for their company. In addition, Daniel Muther offered the possibility to present the results about Migros in June before the User Experience team.

6.5 Further research

The conceptual framing with the combination of the three investigated concepts represents a novel idea. The current study was able to test the 16 design elements with a heuristic evaluation approach. The two cases can be seen as successful pilot case studies. However, there is still uncertainty about how to best apply such design elements. Other approaches like the rather expensive user tests (in usability labs) would be very interesting.

Furthermore, additional literature was found through the interviews. The two experts (PETER BOGAARDS and FELIX KAISER) provided more sources of information that would be interesting to examine.

Additionally, this study could be complemented by research with a stronger focus on companies. The perspective of this study is from a consumer’s point of view, but it would be beneficial to investigate how the companies design and build better services to produce a cohesive experience for their customers.
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Appendix A: Literature search concept

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<th>Consistent</th>
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<th>Reduction</th>
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<th>Holistic</th>
<th>Measurable</th>
<th>Empowered</th>
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The table above shows the amount of design elements found in the literature. The first section is about User Experience with the design elements: Useful, Usable, Desirable, Findable, Accessible, Credible and Valuable. The section in the middle deals with the design elements from cross-channel: Consistent, Contextual, Reduction, Continual, Engaged and Connectable. And the last section contains the three design elements from Customer Experience: Holistic, Measurable and Empowered. A red X is set if the design element is mentioned in the article or book. An alternative term for the design element was accepted as well (see table on page 17). Correlation was, for example, accepted if it was described in the same manner as Connectable. Two elements were mentioned only once: Accessible and Credible. However, more specific search on these two elements lead to a couple of results.

The literature with no focus on the design elements (always two articles per concept) was removed from this table (compare with table 1 from page 9). These articles were used to introduce the concept or to bring another perspective in and they contained no design elements.
Appendix B: Interviews with UX and CX experts

Interview with Felix Kaiser and Peter Bogaards

You can skip a question if you don't want to answer it.
And just write me an email if something is unclear.

**Question 1:** Do you agree with the **perspectives** of User/Customer Experience and cross-channel which I describe on the first two pages?

Answer here...

**Question 2:** According to your opinion, have I found the **most important** design elements or are there more/others?

Answer here...

**Question 3:** Does the idea of **combining** User/Customer Experience and cross-channel design elements makes sense to you?

Answer here...

**Question 4:** How would you now **apply these design elements** to evaluate the services of a company? Taken into account that large user tests in a usability lab are not feasible for me.

Answer here...

**Question 5:** My idea was to transform the design elements into heuristics and then do an **expert evaluation** with these heuristics. What do you think of this approach?

Answer here...

Are there any **additional things** you would like to mention?

More recommendations or tips here...

Thank you very much for taking the time to answer my questionnaire!
Appendix C: Interviews with company experts

Interview über die User und Customer Experience bei Migros

Interview mit Daniel Muther

Wenn es Fragen gibt, die Sie nicht beantworten möchten, ist dies kein Problem.

Frage 1: Darf ich Ihre Antworten in meiner Masterarbeit veröffentlichen und Sie als Interviewpartner mit dem Namen zitieren?
- Ja
- Ja, aber ...
- Nein

Frage 2: Wie wird User Experience bei der Migros verstanden? (UX = Usability?)

-----

Frage 3: Sind Customer Experience und Cross-Channel ein Thema bei der Migros?

-----

Frage 4: Wie weit geht die Personalisierung von Services bei Migros? Was ist noch geplant?

-----

Frage 5: Migros setzt verschiedene Kanäle für die Servicebereitschaft ein. Wie wird sichergestellt, dass die Kanäle aufeinander abgestimmt sind? (Holistic perspective?)

-----

Frage 6: Misst Migros die Kundenzufriedenheit bei verschiedenen Serviceschritten?

-----

Frage 7: Gibt es funktionsübergreifende Teams von Design-Experten?
Interview über die User und Customer Experience bei LEISI

Interview mit Jessica Merz

Wenn es Fragen gibt, die Sie nicht beantworten möchten, ist dies kein Problem.

Frage 1: Darf ich Ihre Antworten in meiner Masterarbeit veröffentlichen und Sie als Interviewpartner mit dem Namen zitieren?

☐ Ja
☐ Ja, aber ...
☐ Nein

Frage 2: Werden für die Marke LEISI Massnahmen zur Verbesserung der User Experience umgesetzt?

Frage 3: Sind Customer Experience und Cross-Channel auch ein Thema?

Frage 4: LEISI setzt auf verschiedene Kommunikationskanäle. Wie wird sichergestellt, dass die Kanäle aufeinander abgestimmt sind?

Frage 5: Misst und analysiert man die Kundenzufriedenheit bei LEISI? (Nicht mit einem Fokus auf die Produkte zum Backen sondern auf die Website, App und Promotionen)

Frage 6: Gibt es Design- oder UX-Experten die bei der Gestaltung der Website und App mitwirkten?
Interview über die LEISI Website und App

Interview mit Bastian Heer, VITAMIN 2 AG

Wenn es Fragen gibt, die Sie nicht beantworten möchten, ist dies kein Problem.

**Frage 1:** Darf ich Ihre Antworten in meiner Masterarbeit veröffentlichen und Sie als Interviewpartner mit dem Namen zitieren?

☐ Ja
☐ Ja, aber ...
☐ Nein

**Frage 2:** Sind die Designvorgaben und das Konzept von Nestlé gekommen oder in Zusammenarbeit mit VITAMIN 2 und BERNETimux entstanden?

**Frage 3:** Wurde das Thema User Experience diskutiert vor oder bei der Umsetzung?

**Frage 4:** Ist auf die Konsistenz zwischen App und Website geachtet worden? Wenn ja, von wem?

**Frage 5:** Wie funktionierten die Promotionen genau für die Kunden? War das Feedback positiv?

**Frage 6:** Gibt es die Einkaufsliste, QR-Code Leser, Früchte- & Gemüse-Saisonkalender und die eigene Backuhr in der App?
Appendix D: Screenshots of the Migros website and app
Appendix E: Screenshots of the LeShop.ch startpage
Appendix F: Pictures of LEISI products and packaging
Appendix G: Screenshots of the LEISI website and app
Appendix H: Screenshots of the LEISI promotion