

# MASTER'S THESIS

## DEVELOPMENT OF AN E-SERVICE IN THE CONSULTING INDUSTRY TO SUPPORT THE DIGITIZATION OF THE CONSULTING PROCESS

An approach to digitize the customer analytics and strategy development phase  
in consulting agencies

submitted to



Master's degree Programme  
**Information Technologies & Business Informatics**

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Graz, December 2018

.....  
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## **STATUTORY DECLARATION**

I declare that I have authored this thesis independently, that I have not used other than the declared sources/resources, and that I have explicitly marked all material which has been quoted either literally or by content from the used sources.

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## **ACKNOWLEDGMENTS**

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## **ABSTRACT**

E-services have a major impact on the business models of companies and define new rules and behaviour patterns in communication between companies and (potential) customers. Looking at the business of consulting agencies, it seems that digital transformation has not yet fully arrived. Consulting agencies advise their customers on the digitization of services and customer touchpoints, while the digitization of services in the consulting industry itself is only progressing slowly. Empirical studies indicate that the consulting industry is able to benefit from the digitization of their services. This thesis investigates how a practical consulting e-service can be developed in order to offer benefits for consultants. The focus is on the development of an e-service in the analysis phase of the customer's needs within the consulting process. The results of the e-service application represent initial approaches for consultants regarding their potential customer's need for consulting services. The e-service is used as a supporting tool for consultants, which optimizes internal consulting processes. In order to develop a beneficial e-service, the core question arises as to which consulting steps, methods, procedures and requirements can be identified as key success factors to provide a beneficial e-service assisting in the customer consulting process. Based on a systematic service engineering process, a methodical approach is introduced to successfully develop and evaluate the e-service application. Established consulting tools and methods in practice and science are used to implement the customer self-directed e-service application. The practical part of this thesis consists of the technical implementation of the e-service as an online application. In expert interviews, the e-service is subjected to proof of the applicability in support of consulting services. The results show that a higher efficiency in the consulting process can be achieved through increased flexibility, time and cost savings. Moreover, great potential in the use of the e-service is seen within the consulting industry. The e-service tends to be most suitable in smaller consulting firms. A high suitability of e-service is attributed to consulting services in the field of strategic consulting, consulting in digital communication measures and PR services. SMEs are defined as the main target group of potential customers with the highest acceptance to participate in the e-service.



## KURZFASSUNG

E-Services haben einen großen Einfluss auf Geschäftsmodelle und definieren neue Regeln und Verhaltensmuster in der Kommunikation zwischen Unternehmen und (potenziellen) Kunden. Auch die Beratungsbranche steht vor einem Wandel mit dem Bedarf an digitalisierten Dienstleistungen. Agenturen beraten ihre Kunden bei der Digitalisierung von Dienstleistungen und Customer Touchpoints, während die Digitalisierung von Dienstleistungen in der Beratungsbranche selbst nur langsam voranschreitet. Empirische Studien zeigen, dass die Beratungsbranche von der Digitalisierung ihrer Dienstleistungen profitieren kann. Diese wissenschaftliche Arbeit beschäftigt sich mit der Frage, wie ein in der Beratungsbranche einsetzbarer E-Service entwickelt werden kann, um den Beratern Vorteile in der Leistungserstellung zu bieten. Der Fokus liegt auf der Entwicklung eines E-Services in der Analyse und Erhebung der Kundenbedürfnisse. Die Ergebnisse der E-Service Applikation stellen erste Ansätze für Berater dar, um den Bedarf des potentiellen Kunden an Beratungsdienstleistungen zu identifizieren und erste Maßnahmen entwickeln zu können. Der E-Service dient als Hilfsmittel für Berater, wodurch interne Beratungsprozesse optimiert werden. Um einen in der Praxis einsetzbaren E-Service zu entwickeln, stellt sich die Kernfrage, welche Beratungsschritte, Methoden, Verfahren und Anforderungen als wesentliche Erfolgsfaktoren identifiziert werden können, um einen nützlichen E-Service bereitzustellen, der den Kundenberatungsprozess unterstützt. Basierend auf einem systematischen Service Engineering Prozess wird ein methodischer Ansatz gewählt, um die E-Service Applikation erfolgreich zu entwickeln und zu evaluieren. Im Zuge dessen werden etablierte Beratungstools und -methoden aus Praxis und Wissenschaft eingesetzt. Der praktische Teil dieser Masterarbeit besteht in der technischen Umsetzung des E-Services als Online-Applikation. In Experteninterviews wird der E-Service einem Nachweis der Anwendbarkeit zur Unterstützung von Beratungsleistungen unterzogen. Die Ergebnisse zeigen, dass eine höhere Effizienz im Beratungsprozess durch erhöhte Flexibilität, Kosten- und Zeitersparnis erreicht werden kann. Darüber hinaus wird von den Experten ein großes Potenzial für die Nutzung des E-Services gesehen. Der E-Service adressiert kleinere Beratungsunternehmen im Bereich der strategischen Beratung, Beratung in digitalen Kommunikationsmaßnahmen und PR-Dienstleistungen.

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## 1 INTRODUCTION

“A business absolutely devoted to service will have only one worry about profits. They will be embarrassingly large” – Henry Ford (O’Halloran, 2010)

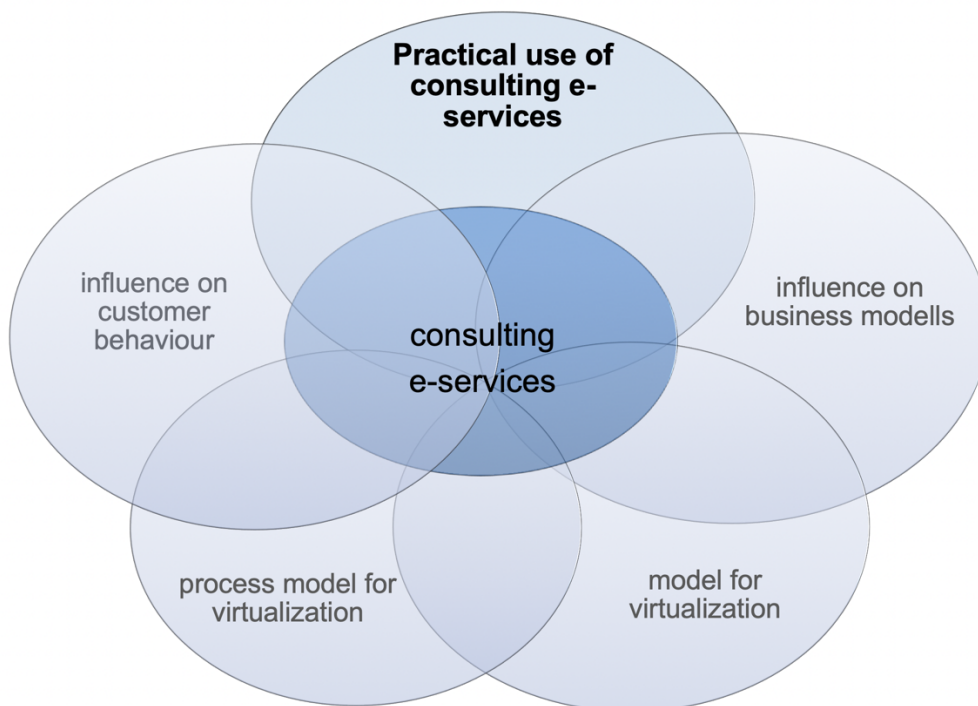
Our service-oriented economy and society is increasingly digitized. Traditional services are increasingly losing their effectiveness and competitiveness over the technological and economic benefits of e-services. (Nissen, 2018) The mind-set has changed from a product dominated orientation to a service dominated focus that is changing the value chain. The use of e-services is enabled by technological progress in Information and Communication Technology (ICT), Internet of Things (IoT), Big Data, Cloud Computing, Social Media and new digital ecosystems like Smart Services.

Digitization has a major impact on business models of companies and defines new rules and behaviour patterns in communication between companies and (potential) customers (Bruhn & Hadwich, 2017). In our digitalized society, we experience a digitization of the customer journey and associated customer touchpoints. We inform ourselves about the planned restaurant visit via Tripadvisor, pay the bill in the restaurant with digital money and order a driving service with a mobile app to the accommodation. The accommodation is rented through the online platform Airbnb and we share the experiences we made through Facebook, Instagram and Snapchat. The availability of products through online shops is mostly seen as a basic requirement for meeting the demand.

While the digitization of services has affected many business-to-customer (B2C) businesses, it has a transformational impact on the consulting industry as well. The aim of the digital transformation of services is to remain competitive and create value for customers through a Unique Selling Proposition (USP) (Catlin, Lorenz, Sternfels, & Willmott, n.d.). Unlike to other industries, there have been no major changes in digitization of services in the consulting industry yet. This raises the question of why consulting agencies advice their customers on the digitization of services and customer touchpoints, while the digitization of services in the consulting industry itself is progresses only slowly. (Werth, Greff, & Scheer, 2016)

Consulting is determined by its consultants, their know-how, skills and especially their network (Greff, 2015). If you visit the websites of today's consulting companies, in most cases the digital customer journey ends in a contact form. Especially consulting agencies have to jump on the shift of services into the digital domain (Bruhn & Hadwich, 2017). Looking at the business of consulting agencies, it seems that digital transformation has not yet arrived in the industry itself. Therefore, the question arises how ICT can support to transform consulting services (Greff, 2015).

Empirical studies indicate that the consulting industry is able to benefit from the digitization of their services (Greff, Johann, & Werth, 2017; Nissen & Seifert, 2015). Nevertheless, there is little literature in the digitization of consulting services end even less empirical research that has been conducted to analyse the acceptance, benefit, usage, satisfaction and success factors of e-services in consulting. (Seifert & Nissen, 2016) Figure 1 contains extracts from research areas that require further research.



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Figure 1: consulting e-service research areas (based on Werth, Greff, & Scheer, 2016)

Empirical research can be carried out to analyse the influence of consulting 4.0 services on the customer behaviour and on business models. More theoretical work can be done to develop process models and usage scenarios for e-services.

This work deals with the question of how a practical consulting e-service can be developed in order to offer benefits in the consulting industry. The practical use of consulting e-service will be examined in the course of this work.

## 1.1 Research question and objective

The aim of the Master's thesis is to develop an applicable and beneficial e-service for consulting agencies. The approach of the e-service focuses on the development of a digital touchpoint for customers in an early customer contact phase in the consulting process. Therefore, the Master's thesis does not aim to prove that face-to-face consulting is no longer needed, but rather offering a practicable approach to broaden consulting services via digital channels. The result of the customer analysis provided as an e-service offers consultants the opportunity to base consulting approaches around digital communication channel consulting and digital communication strategies on the results of the e-service. Furthermore, the consulting e-service defines a promotional opportunity for consulting agencies to gain potential customers. The following research question is answered within this thesis.

### ***Research question***

Which consulting procedures, methods and e-service requirements can be identified as key success factors to provide a beneficial e-service assisting in the customer consulting process?

### ***Research hypothesis:***

The outcome of the consulting e-service has an influence for consultants on the consulting service for their customers<sup>1</sup>.

H<sub>1</sub>: The outcome of the e-service has a supporting impact on the consulting service.

H<sub>0</sub>: The outcome of the e-service has no supporting impact on the consulting service.

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<sup>1</sup> Basis for the research hypothesis: Werth, D., Greff, T., & Scheer, A.-W. (2016). Consulting 4.0 – Die Digitalisierung der Unternehmensberatung. *HMD Praxis der Wirtschaftsinformatik*, 53(1), 55–70. <https://doi.org/10.1365/s40702-015-0198-1>.

## **1.2 Methodological approach and structure**

This thesis contains a theoretical and a practical part. In order to present the approach of the thesis in a clear way, figure 2 gives an insight into the methodological approach and the individual results of the work. Additionally, figure 3 shows an overview of the structure of the thesis.

In the theoretical part, the requirements and procedures of the practical part are closely described. Within the theoretical part, a literature review is conducted on the subject of consulting 4.0 and e-service engineering publications. In this step, the existing scientific publications on this topic are clarified. Based on a maturity model, the need for digital consulting services are identified. Digitization approaches can be identified based on a classification of consulting services and the analysis of the consulting service process.

As described in the delimitation of the thesis below, some scientific papers are deepening into the full automation of the consulting industry. This thesis is differentiated by the fact that a complementary e-service is being developed for traditional consulting as an additional sales channel. The full automation of the consulting industry defines therefore a non-target. Accordingly, a limitation of relevant scientific publications on the subject of consulting 4.0 was made within the literature research. The literature used was found in the online databases Web of Science, Google Scholar, Science Direct, WISONET – WIWI, UNIKAT – University of Graz and EBSCO – Business Source Premier.

Another chapter looks into the digital transformation of services. Requirements and features of digital services are discussed. In a next step, requirements for the digital transformation of companies are revealed. These are needed to successfully integrate the e-service into practice. As a result of the theoretical part, the core question arises, namely which consulting steps, methods and requirements can be identified as key success factors in the customer consulting process.

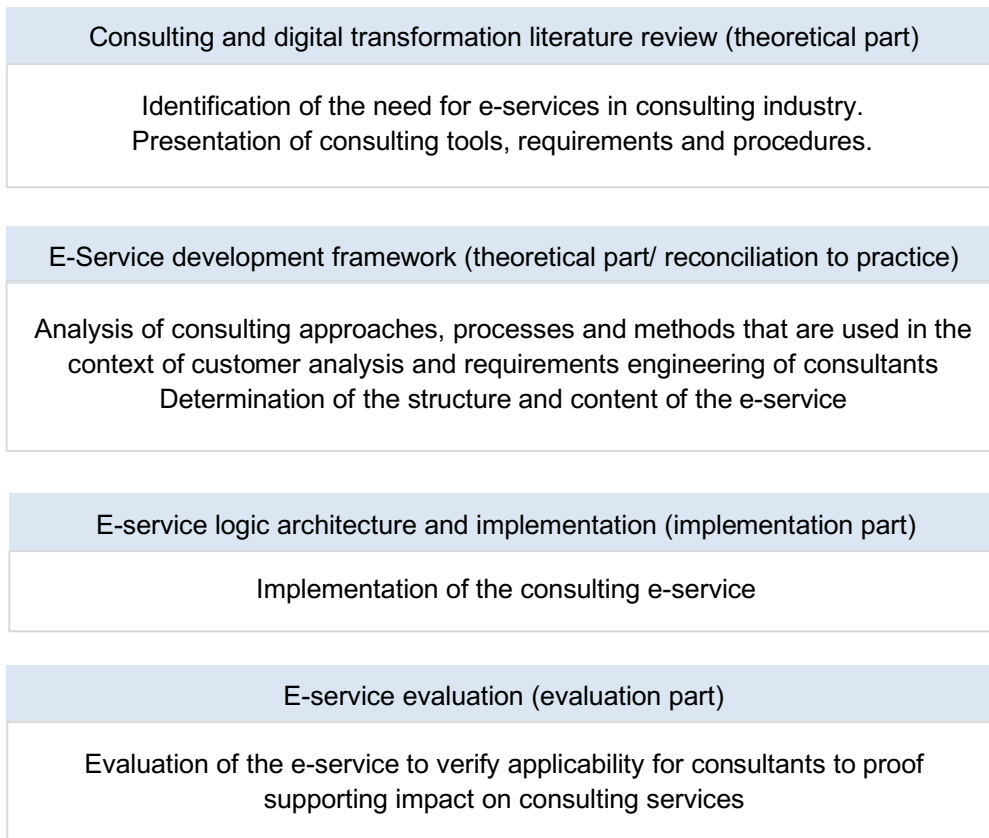
To ensure a methodical approach in the development of e-service, methods and tools are presented to create an e-service development framework which can be used in the practical part. The focus is on consulting approaches, processes and methods, which are used in the context of customer analytics and requirements engineering of consultants in the area of communication strategies. It focuses on the implementation of an e-service, which supports consultants in the information and acquisition phase from a customer contact circle perspective. The established methods in practice and science are used to implement the customer's self-directed e-service application.



Before the e-service is developed, the structure and architecture of the e-service is explained. The e-service is also presented based on technical requirements. Finally, the customer-visible logic of the e-service, the query complex, is worked out based on the findings of the previous chapters.

The practical part of this Master's thesis consists of the technical implementation of the e-service as an online application. The results of the theoretical part will be integrated into the application.

With the acquired knowledge and analysis on the customer within the e-service, further consulting services can be built up. In other words, the approach of this thesis focuses on the development of a digital touchpoint for customers in the early customer contact phase. To answer the research question, the e-service is subjected to an evaluation. As part of an expert survey, the e-service is subjected to proof the applicability for consultants assisting in consulting services. While in quantitative research, hypotheses are the starting point of a research project and should be examined, they play a subordinate role in qualitative research. In the context of the qualitative survey in the form of interviews, the hypotheses assume the function of a presumption, which is based on the knowledge of existing literature (Baur & Blasius, 2014).



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Figure 2: Methodological approach

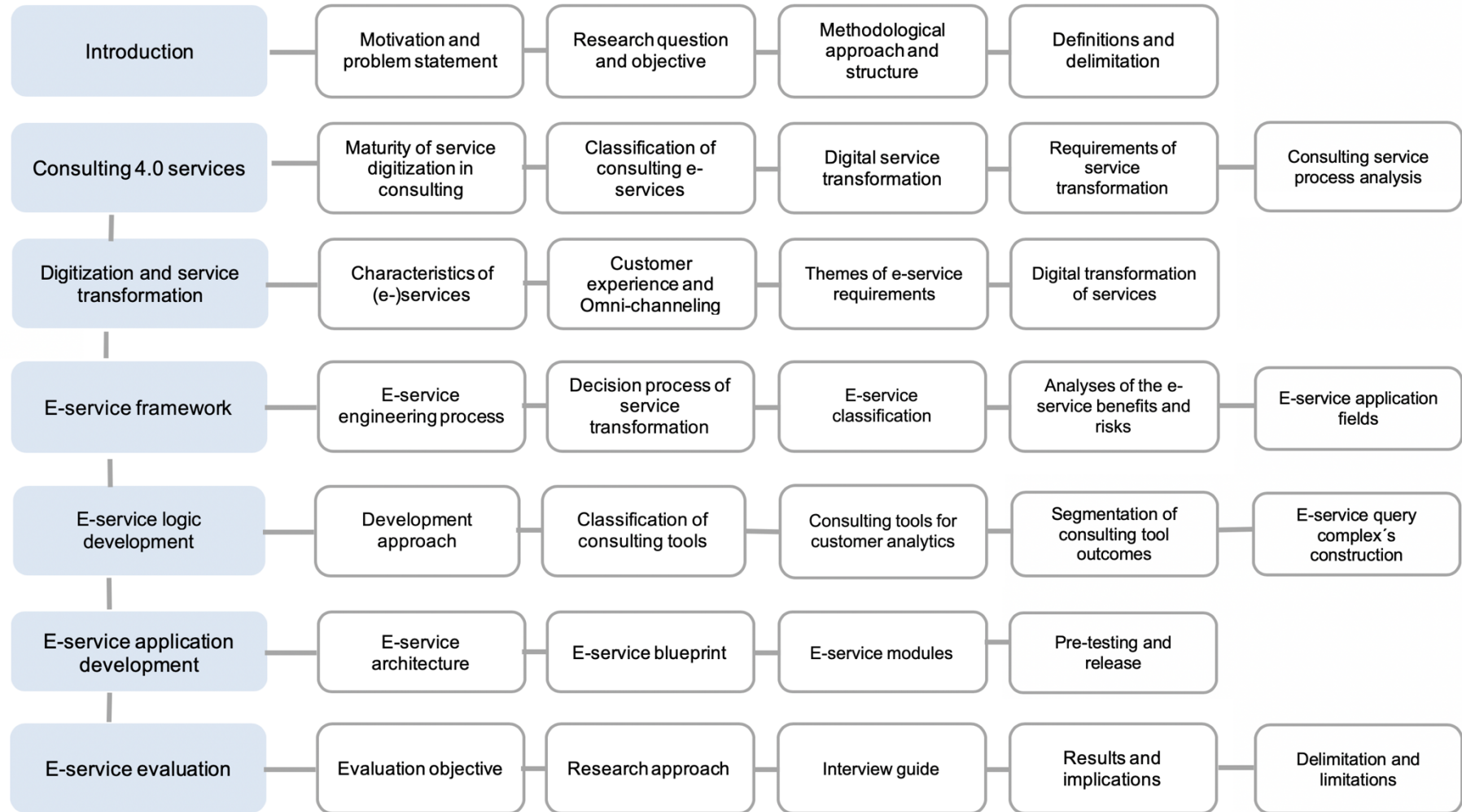


Figure 3: Structure of the Master's thesis

### **1.3 Definitions & delimitation**

There are several definitions of relevant terms in the existing literature. The following definitions aim at clarifying the meaning and understanding of certain terms in this thesis and giving introductory notes.

#### **Digitization / digitalization / digital transformation**

Digitization and digitalization are terms that are closely associated and often used interchangeable in a broad range of literature. In reality, the three terms digitization, digitalization and digital transformation have distinct meanings.

Digitization is defined as the process of changing from analogue processes and changes it to a digital form without changes to the process itself (Werth et al., 2016).

Digitalization means the use of digital technologies to change a business model. Digitalization offers new revenue and value-adding opportunities. Thus, it is the process of moving to a digital business. ('Gartner IT Glossary', 2018) Digitalization is quite distinct from digital transformation.

“Digital business transformation is the process of exploiting digital technologies and supporting capabilities to create a robust new digital business mode”. ('Gartner IT Glossary', 2018) Digital transformation is not something that companies can implement as projects like digitalization projects. Beyond, digitalization uses digital transformation to develop new business models.

Finally, a company can digitize information, digitalize processes and digitally transform the business and its strategy.

#### **Virtualization of services and processes**

Virtualization means the removal of physical interaction between people in a specific process. Generally, a virtual process reduces the interaction of people to a minimum. Information and Communication Technology (ICT) and other technologies are used as virtualization-mechanism. (Overby, 2011)

In the context of the consulting industry, virtualization describes the transformation of traditional and face-to-face services into virtual and even automated consulting. (Nissen & Seifert, 2015)

### **Service engineering**

Services must be systematically developed. Analogous to product and software development, a development discipline has to be established for the service sector, which methodically deals with the transformation of service ideas into profitable services. (Bullinger & Scheer, 2006)

Service engineering defines process models and standards for the systematic development of services (Bullinger & Scheer, 2006). In the context of this thesis, the process model is determined by existing scientific literature. The analysis of the applicability and usefulness of a consulting e-service should be identified, implemented and finally evaluated.

### **E-Service**

E-services are all services and activities that are created by computers and interactively offered and executed via electronic media such as the Internet ('E-Service :: ITWissen.info', 2018). In this context, this thesis deals with the question of how consulting services can be supported by digitization.

### **Consulting**

The consulting industry is defined very broadly. The area of responsibility ranges from strategic consulting to the management, IT consulting activities or advising on the implementation of individual corporate advertising measures. To comply with the delimitation and scope of this Master's thesis, the focus of consulting lies on the Public Relations (PR) and advertising industries. Consulting activities are considered to be all those that are sold to B2B customers consulted by PR and advertising agencies. In particular, consulting activities related to the strategic orientation, the perception of target groups as well as the advice on the operational implementation of PR and advertising measures are addressed.

## **1.4 Delimitation of the work**

Existing research frequently assumes that consulting 4.0 services are accompanied by a complete digitization of the service offering. This approach relies on web-based consulting platforms, in which the customer mainly does not get in direct contact with consultants across the entire value chain.

The findings of the following chapter "Consulting 4.0" show that this approach is only partially feasible. Therefore, this work focuses on possible complementary digital customer channels for consulting agencies. The focus therefore lies on the implementation of an e-service supporting consultants in the information and acquisition phase from a customer contact circle perspective. From the perspective of consultants, the e-service should provide support in the assessment and analysis of (potential) customers attending to the online application. With the acquired knowledge and analysis on the customer, further consulting services can be built up. In other words, the approach of this thesis focuses on the development of a digital touchpoint for customers in the early customer contact phase. Therefore, the Master's thesis does not aim to prove that face-to-face consulting is no longer needed, but rather offering a practicable approach to broaden consulting services via digital channels. Consequently, further work can be done to develop an approach for consulting e-stores including fully automated virtual consulting services (Nissen, 2018).

## 2 CONSULTING 4.0 SERVICES

“By rethinking the delivery-process of consulting itself consultancies can reshape the interaction with the client and reach new clients” – (Nissen & Seifert, 2015)

The consulting industry faces new challenges in digitization. Technology based consulting approaches are responsible for fundamental changes in competition and customer behaviour. The consulting industry faces a disruption with the need to more digitalized solutions. (Christensen, Wang, & Bever, 2013; Keuper, Schomann, Sikora, & Wassef, 2018)

Service virtualization tries to reduce the face-to-face interaction between consultants and customers through the use of information and communication technologies. Those digitalized and virtual services are known as consulting 4.0 services. Consequently, consulting 4.0 services take part in the digital transformation of the consulting industry. (Keuper et al., 2018) They offer the opportunity to ensure competitive advantage and attract new customers (Greff et al., 2017; Keuper et al., 2018).

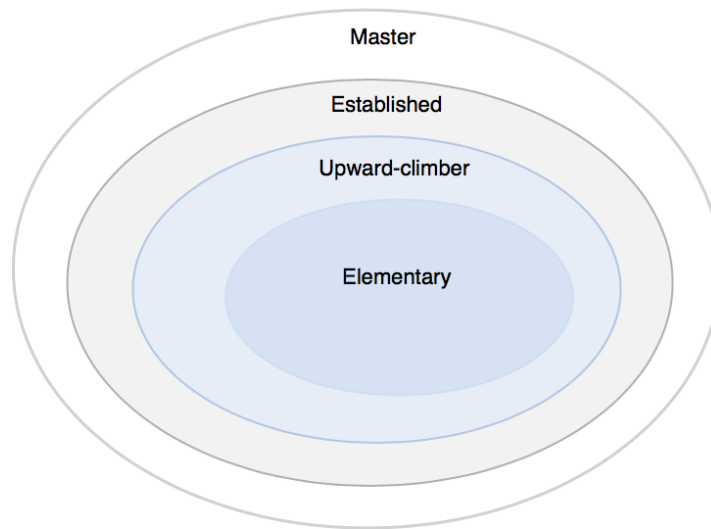
This chapter gives an introduction into the digital consulting industry. Based on a maturity model, the needs for digital consulting services are identified. Digitization approaches can be identified on the basis of a possible classification of consulting services in connection with the analysis of the consulting service process. The need and status quo of digital transformation in the consulting industry are also addressed.

### 2.1 Maturity of service digitization in consulting

As already mentioned, the consulting industry has a low-level digitization in their services. In comparison to other industries, the maturity of service digitization is relatively low. The maturity model of digital transformation points out stages defining the degree of virtualization of consulting services. Figure 2 shows a classification of maturity level in ascending order of the degree of digitization. (Keuper et al., 2018; Nissen & Seifert, 2015)

### ***Elementary level***

Customer projects are supported through the use of technologies like e-mail, chat, video-conferencing and sharepoints. The consulting itself mainly doesn't change the traditional consulting process. Face-to-face communication between the consultant and customer forms the core of the cooperation and defines the value creation process. (Keuper et al., 2018)



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Figure 4: Maturity level of service digitization in consulting (based on Keuper, Schomann, Sikora, & Wassef, 2018; Nissen & Seifert, 2015)

### ***Upward climber level***

The relationship between the consultant and customer still remains face-to-face. Most of the projects are still based on personal and direct interactions. Technology is increasingly used to virtualize (sub-)processes. (Keuper et al., 2018)

### ***Established level***

Virtual consulting services are an integral part of the business model defining the third level in the maturity model. Customers, partners and consultants are well connected. Occasionally, consulting services are offered fully automated. (Keuper et al., 2018)

### ***Master level***

The business model is focused on virtualized services. Face-to-face communication and presence of the consultant is only needed in critical stages of the consulting process and in the case of particular complex problems. (Keuper et al., 2018)

## 2.2 Classification of consulting e-services

There are more possible classifications of consulting e-services in the literature. In some, however only the naming differs. Leimeister (2012) and Nissen (2018) provide a possible classification considering digitization and virtualization aspects which can be merged.

Nissen (2018) differentiates between the following classification of e-services in consulting:

- Virtual communication: personal interaction still remains as a core part in the consulting process supported through software tools. E.g. video conferencing
- Online self-services: substitutes face-to-face contact in particular consulting stages through software support or applications. E.g. virtual assessments
- Online streams: personal interaction is mainly indirect, but consulting agents take an active part in the consulting process. E.g. live webinars
- Task automation: mainly automated interaction and predominantly automated solutions. E.g. process mining

Leimeister (2012) classifies as follows:

- computer-assisted consulting: common software tools to support consultants in the service engineering and implementation
- computer-aided consulting: software tools for specific matters in consulting industry
- computerized consulting: focuses and supports on the process of a consulting e-service
- computer-provided consulting: approach to substitute consultants where software executes consulting services



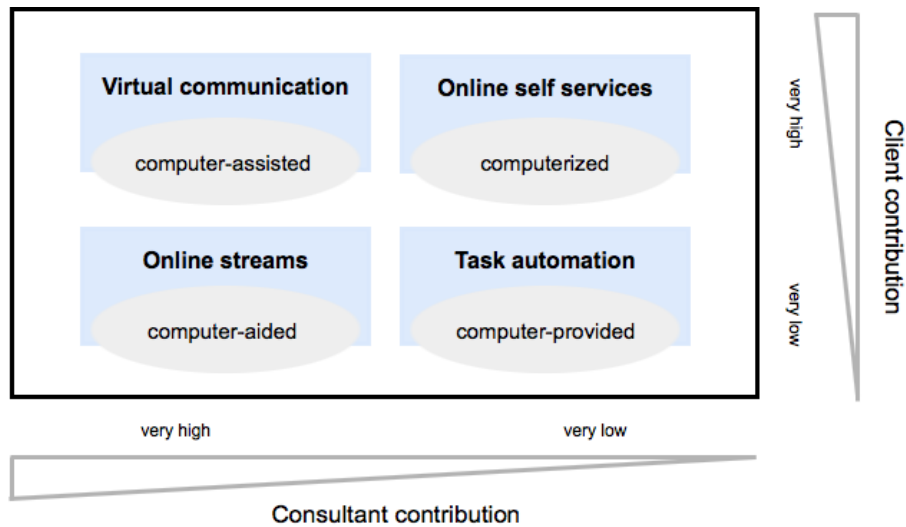


Figure 5: Classification of consulting e-services (based on Leimeister, 2012; Nissen, 2018)

As shown in figure 3 both classification approaches can be merged with the dimensions of the degree of client and consultant contribution. This thesis focuses on online self-services in consulting. A substitution of consultants is only present in particular stages of the consulting process. The practical part of the thesis includes the implementation of a e-service in early consulting phases. In this stage the contribution of consultants is very low, but client contribution is very high.

## 2.3 Digital service transformation in the consulting industry

The previous sub chapters pointed out the maturity level of digitization and a possible classification of consulting services from a theoretical perspective. This raises the question where the consulting industry is today in the complex transformation process. The following sections explain the disruptive change in the consulting industry and explain why consulting approaches are increasingly based on new values.

### 2.3.1 Consulting on the cusp of disruption

Nissen (2018) points out that there is a need for action of transformation in the consulting industry. The consulting industry needs to redefine itself to remain competitive against new competitors with innovative business models. The potential of digitization of consulting services should be assessed in a critical way. Consulting agencies should review their service portfolio. (Nissen, 2018) Subsequently, a consulting firm should be able to identify the potential of transformation from face-to-face to new and digitalized

services. Digital transformation is going to turn classical business models of the “people business” into innovative services. (Christensen, Wang, & Bever, 2013)

Applying to practice, the digital transformation does not seem very easy in the consulting industry. Consulting agencies face typical problems in digitization of their business model and services. Christensen, Wang and Bever (2013) attribute this to a possible laziness due to the good market development in the last decades. The core consulting business model has not changed for more than one hundred years, even though the consulting industry is considered to be on the cusp of disruption at the moment (Christensen et al., 2013; Nissen, 2018; Nissen & Seifert, 2015; Seifert & Nissen, 2016; Werth et al., 2016).

### **2.3.2 Shifting people-based to asset-based consulting**

Until now, opacity had been the main factor which made consulting immune to disruption and adaption to more digitalized solutions. Consulting work is done in a black box from the perspective of an outsider due to knowledge intensity and complexity in the services. Consultants often get hired to solve specialized problems making it hard to standardize the consulting itself. Human capital defines the core asset in this industry. For this reason, it is difficult to digitize the consulting process in the entire value chain. (Christensen et al., 2013)

Christensen et al. (2013) and Nissen (2018) describe a shift to modular services in the consulting sector. This development refers to complementary digitalized channels for the customers. The technologies used enable more flexibility, extended access and instant responses to customers. Furthermore, Big data, business intelligence and machine learning algorithms combined with e-services offer capabilities to increase productivity and the quality of consulting results (Christensen et al., 2013; Nissen, 2018).

Known literature often refers to the end of face-to-face consulting (Christensen et al., 2013; Nissen, 2018; Nissen & Seifert, 2015; Werth et al., 2016). In the literature, consulting e-stores are defined as a solution shifting from people-based consulting to asset-based consulting. Christensen et al. (2013) describe asset-based consulting as involving „the packaging of ideas, processes, frameworks, analytics and other intellectual property for optimal delivery through software or other technology“.

A complete digitization and automation of consulting services is controversially discussed in the literature. Known literature points out that there is a lack of research in consulting service transformation that has been done (Christensen et al., 2013; Keuper et al., 2018; Nissen, 2018; Nissen & Seifert, 2015; Werth et al., 2016). For this reason, this thesis does not focus on the digitization of the entire consulting process through consulting e-stores

solutions. The development of a consulting 4.0 service is seen as a possible complementary digital customer channel at an early stage of information and analysis of the consulting process.

## **2.4 Requirements of consulting service transformation**

In general, consulting services are based on knowledge and interaction (Keuper et al., 2018; Seifert & Nissen, 2016; Werth et al., 2016). Therefore, the question is to what extent consulting services can be usefully virtualized at all. Followed by the question how to assess the virtualization potential objectively.

### **2.4.1 Consulting service virtualization potential**

A successful virtualization of services needs three basic requirements. Overby (2011) defined usage, acceptance and quality of services as key success factors. Based on the well-known Process Virtualization Theory and further empirical literature the following influencing factors could be identified:

#### ***Influence of complexity***

Less complex consulting services offer a high virtualization potential. In high complex consulting processes a deep cooperation and communication between consultants and their customers is necessary to solve complex problems. Workshops and other further cooperative tools are needed. (Keuper et al., 2018)

#### ***Influence of interaction***

The interactivity of the consulting service includes type, duration and frequency of the interaction between customers and consultants as well as the interaction between consultants in the service process. High interactivity thus limits the virtualization potential. By choosing suitable technologies and communication channels, this can be partially offset. (Becker, Beverungen, Knackstedt, & Winkelmann, 2010)

#### ***Influence of urgency***

The priority of the consulting service from the customer's point of view has a positive effect on the potential for virtualization. The use of technology for locally independent cooperation brings advantages. In general, digital services have a 24-hour availability. This aspect gives the customer a higher perceived flexibility and higher availability. (Keuper et al., 2018)

### ***Influence of trust***

The trust between consultants and customers is one of the core criteria for assessing quality. The virtualization of consulting reduces the direct contact between the consultant and customer. As a result, there is a risk to lose quality within the relationship. For the virtualizability of consulting services it tends to be more successful if an established relationship is given. Trustworthiness and reputation of the consulting company are crucial factors and positively influence the virtualization. (Keuper et al., 2018)

It should be noted that consulting agencies have to analyse their strategy and own service portfolio first (Greff et al., 2017). Digital consulting services must be examined to fit in the company's strategy and vision. In addition, the required resources and availability of suitable consultants must be guaranteed to successfully transform to digitalized services. (Keuper et al., 2018)

### **2.4.2 Characteristics of digitalized services in consulting**

As mentioned previously, there are several possible classifications, a demand for transformation and a potential to digitalize consulting services. Now it has to be clarified which requirements a consulting service has to fulfil to be transformed.

The following characteristics could be identified: (Greff, 2015; Seifert & Nissen, 2016; Werth et al., 2016)

- standardization: necessary for a structured construction of the service and for efficiency-enhancing effects of standardized services. The (sub-)process of the consulting service has to come up to the potential to offer the same procedure to several customers with similar problems
- modularization: consulting services must be able to be divided into small parts to provide particular solutions for customers
- customization: provide customized solutions to make standardized modules of the service more flexible
- integration: support the entire consulting process of a service offered to customers to avoid isolated single solutions
- customer-centricity: customers are part of the solution finding in the digital consulting process

## **2.5 Consulting service process analysis**

In order to locate potential digitization in consulting services, it is necessary to gather knowledge about the steps in the process and the structure of the service process. The consulting process can generally be divided into individual phases (Lippold, 2013; Reineke & Bock, 2007). Of course, not all consulting services follow the same process cycle. However, in the following section, generalized consulting phases are assumed.

### **2.5.1 Consulting process model from a consultant's point of view**

The process model includes four main stages from a consultant's perspective. Lippold (2013) and Reineke and Bock (2007) defined the following core and sub processes in consulting. The model reaches from first customer contact point over service engineering processes up to the evaluation and performance measurement of services.

As illustrated in figure 4 the typical process phases can be defined as follows. To be noted, the consulting process is not exhaustive, as the focus is only on processes and activities that are perceivable by the customer and have a direct impact on the service.

The acquisition phase includes the information process. Consultants gather relevant information about their (potential) customers to be able to present consulting approaches and solutions later on. To be noted, an e-service can already be used in this early stage. On the one hand the service can assist the consultant in the information process and might be able to achieve customer loyalty very early in the process. On the other hand, the service can create an added value for the customer. (Christensen et al., 2013; Lippold, 2013) The core process represents related marketing and sales measures to acquire (new) customers through various channels.

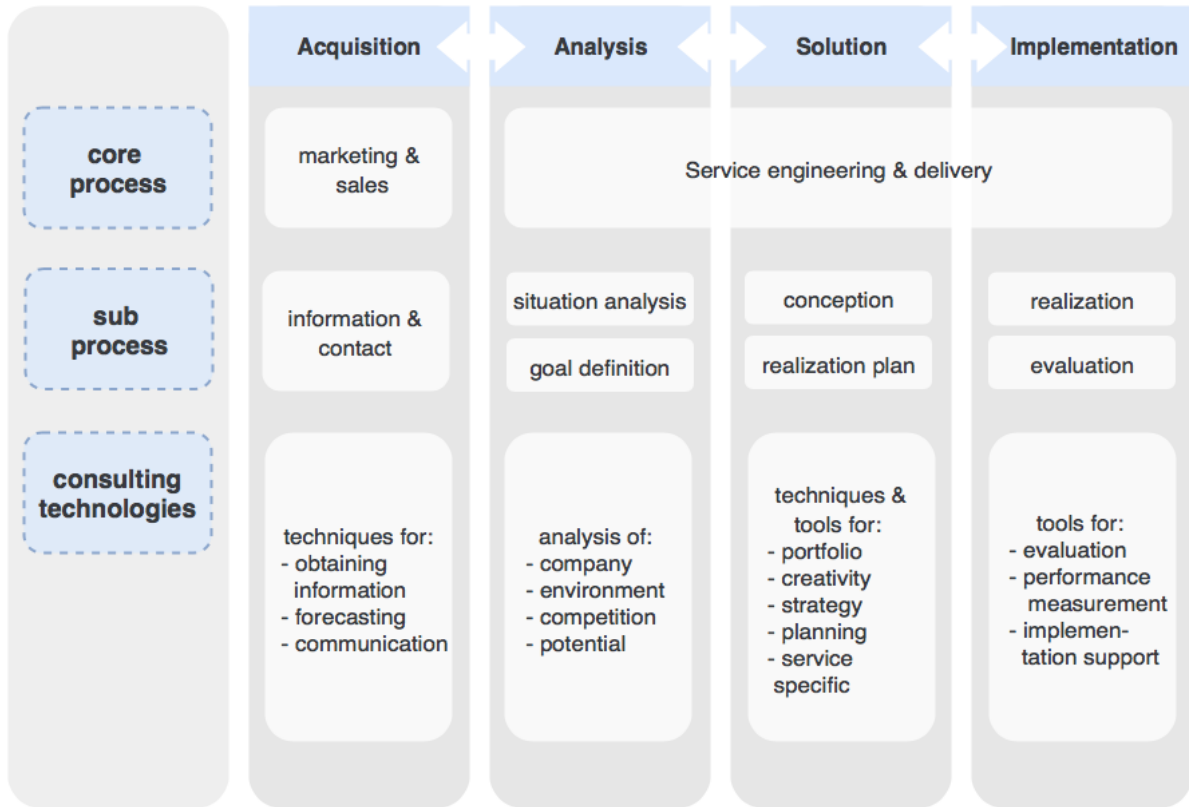


Figure 6: Consulting process model (based on Lippold, 2013; Reineke & Bock, 2007)

The analysis phase is part of the service engineering process. Based on the gathered information in the first stage, consultants use situation analysis to identify the key drivers of the competition, the market and on the company level. From this, further findings can be derived. (Lippold, 2013) More detailed consulting tools and techniques according to this stage will be shown in chapter 2.

The solution phase is part of the service engineering and service delivery process. Concepts and realization plans build the sub processes in this stage. Consultants use various tools to create concrete implementation plans from strategies and ideas of the previous phases. (Lippold, 2013)

From the perspective of a completed process analysis, the final stage is defined through the implementation phase. Part of these are the realization and evaluation of service relevant tasks. As in all phases, suitable tools can be used to support the implementation or to measure the performance of the service. (Lippold, 2013; Reineke & Bock, 2007)

## 2.5.2 Service buying process from a customer's point of view

From a customer's point of view the consulting process can be divided into five stages. A more detailed work on the customer buying journey will be done in chapter 4. At this point, the focus is on aligning the consulting process phases with the consumer buying process of consulting services in a general way.




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Figure 7: Traditional service buying process (based on Greff, Johann, & Werth, 2017; Meyer & Schwager, 2007)

As shown in figure 6, the first stage includes the information process. The customer wants to gather information about the service. The information includes service descriptions, pricing and depending on the information need, a first diagnosis or approach for the solution of the customer's problem. (Greff et al., 2017) Already in this early phase, the customer must be offered a solution for his problem ('Customer journey mapping', 2018; Meyer & Schwager, 2007). Therefore, the key task is to identify the customer's problem to provide assistance in that early stage (Lippold, 2013). References and feedback from other customers are able to build an important base for trust. This characteristic is essential in the second process phase.

The decision phase is initially considered as a black box, as many factors lead to influence the purchase intention of a service. In chapter 4, the thesis focuses on a more detailed customer buying journey and the concept of "moments-of-truth" to deal with possible threats of customers.

The purchase of the service defines the third phase in the process. Depending on the type of the service, the purchase process can be done online or offline. (Greff et al., 2017) Customers use multiple touchpoints to purchase and consume services, expecting an integrated holistic experience. In many cases an omni-channel strategy is applied in marketing providing the customers with multiple purchasing channels. (Hoong, 2013) Further details about omni-channels can be found in chapter 4.

The delivery process defines the consumption of the service (Greff et al., 2017). People and asset-based consulting services were previously discussed and are dependent on the degree of digitization of the service.

The after sales process includes the evaluation of the service, feedback from the consumer and other related after-sales services (Greff et al., 2017). To be noted, the after sales process doesn't state the final stage. The customer contact phases are understood as a continuous circle (Kreuzer, Schäfer, & Aschbacher, 2011). A more detailed assessment of the customer contact circle is mentioned in chapter 4.



## 2.6 Chapter summary and outcome

The chapter attempts to create awareness to uncover the need for more digitalized solutions in the consulting industry. As pointed out in theoretical and empirical literature, consulting services face a disruption with the need to more digitalized solutions. In comparison to other industries, the maturity of service digitization in consulting is relatively low.

There are multiple possible classifications for consulting e-services, a demand for transformation and a potential to digitalize consulting services. Within the chapter, necessary characteristics and requirements of digital service transformation were identified to develop a beneficial e-service. But there is also the risk in digitization, which is associated with a loss of perceived quality and trust. Human capital defines the main asset in most of the consulting services. Consultants often get hired to solve specialized problems making it hard to standardize the consulting itself.

Out of these insights, this thesis does not focus on the digitization of the entire value chain in the consulting process done through consulting e-stores solutions. The development of a consulting 4.0 service is seen as a possible complementary digital customer channel. Based on the classification made in this chapter, the thesis sets the focus on an online application in the early consulting phase. A substitution of consultants is only present in particular stages within the consulting process. The e-service offers the opportunity to ensure competitive advantage and to attract new customers. Furthermore, it might be able to achieve customer loyalty through adding a value for the customer very early in the contact circle.

To answer the question whether to digitalize a service or not, it should be noted that consulting agencies have to analyse their strategy and own service portfolio first. Digital consulting services must be examined for their fit in the company's strategy and vision. Furthermore, the required resources and availability of suitable consultants must be guaranteed to successfully transform into digitalized services.

### **3 DIGITIZATION AND SERVICE TRANSFORMATION**

E-services and the way we use them in our society have changed business models and will continue to do so. This requires a transformation from traditional services to e-services. The pace of digital transformation at which it happens accelerates and challenges companies to come with this fast change. ('Digital transformation', 2018; O'Halloran, 2010) Digital transformation is a journey with continuous optimization processes. It needs a staged approach with a roadmap to successfully manage the transformation. ('Digital transformation', 2018)

This chapter looks at the aspect of the digital transformation of services. It also explains requirements and features of e-services. Building on that, the requirements for the digital transformation of companies are revealed. Finally, these are needed to successfully implement consulting e-services into daily business.

#### **3.1 Characteristics of (e-)services**

E-commerce and the technological progress were responsible for the rising interest in the concept of e-services for researchers, academics and practitioners. Even if a narrow definition is lacking, it is possible to characterize e-services. (Scupola, Henten, & Nicolajsen, 2009) Before the digital age started influencing business models, it was often said that services are produced and consumed simultaneously, thus requiring face-to-face contact between the service provider and the consumer (Hofacker, Goldsmith, Bridges, & Swilley, 2007).

Digitization has fundamentally changed the service sector. Information and communication technologies make it possible to codify data, information and knowledge on digital media and communication networks. Therefore, e-services become goods in a sense. To the extent, there is a degree of convergence of goods and services. (Scupola et al., 2009)

Hofacker et al. (2007) identify three main types of e-services.

<b>Complements</b>	E-services are complements to existing offline services. E.g. the online seat reservation by airlines.
<b>Substitutes</b>	E-services substitute existing offline services. E.g. printed newspaper is substituted by online news.
<b>Unique</b>	E-services aroused through information and communication technology. E.g. search engines as Google.

Table 1: Types of e-services (based on Hofacker et al., 2007)

One of the primary requirements for developing an e-service is the codification of knowledge. Such knowledge codification is needed to produce and distribute services over online networks. (Scupola et al., 2009) The codification process is not always an easy task. Complex knowledge that is used in offline services and service experience is not easy to turn into an e-service. Knowledge driven services, like many consulting services, should be subjected to a feasibility test when transformed into e-services. The question is, which tacit knowledge can be turned into explicit or codified knowledge. (Scupola et al., 2009)

For example, a challenge can be made to fully digitize a company's brand positioning consulting service. The consulting service can be intercepted within the framework of a workshop, in which the consultants ask questions about the company, reflect on them and finally, together with the customer, work on a strategy for achieving the goals. Experience of the consultant and implicit knowledge define an important role in this part of the consulting process. As a consequence, it is not certain that all services can be fully transformed digitally. To solve this problem there is no general solution in the literature. However, characteristics of e-services provide a framework to see these as requirements for the digitization of services.

The following characteristics are identified in literature (Bruhn & Hadwich, 2017; Hofacker et al., 2007; O'Halloran, 2010; Trefz & Büttgen, 2007):

- **Digitization capability** are based on digital systems that capture, process and store analogue information.
- **Virtualization capability** (intangibility) enables to offer digitalized (sub)processes of the service through digital channels e.g. the internet without the necessity of face-to-face-contact.

- **Time independency** means a 24-hour technical availability of the service. The demand of the service can therefore be retrieved at any time.
- **Ubiquity** ability enables the worldwide availability of the service (unless technical or political access problems exist)
- **Multimedia** defines the possibility of combining various media types like sound and image due to digital technologies.

### 3.2 Customer experience and Omni-channelling of e-services

Every product and service are linked to an experience. This also applies to the interactions with a company. Therefore, the customer experience has a high priority in service development, service transformation and customer touchpoint management.

Customer and user experience are not the same. But both take a central stage in digital transformation of services ('Digital transformation', 2018). The customer experience is an integrated approach affecting not just one department or process in a company. In other words, it is not a concern of a single customer touchpoint, it is a matter of the entire company. (Meyer & Schwager, 2007) The user experience (UX) describes the user experience of a particular online service. It reflects a person's experiences as well as feelings while using the service, for example the usability of the company's website interface. (Meyer & Schwager, 2007)

Of course, both types of experiences take a key role when developing an e-service. But the customer experience tries to encompass every aspect of the company's offering, including the service itself, the advertising, ease of use and reliability. (Meyer & Schwager, 2007) Following these definitions, the customer experience of e-services has to be ensured in the entire company. The use intention and perception of the e-service depends on the overall perception of the company. And that across all touchpoints and channels. Therefore, it is necessary to connect the online and offline world in the focus of customer experience measures. The so-called Omni-channel approach connects and transforms online and offline services to create a unified brand experience. (Keuper et al., 2018)

Communicating a positive customer experience at the customer touchpoints with a company is seen as an important action in order to differentiate itself from competitors, to establish a sustainable customer loyalty and ultimately to bind customers to the company. (Keuper et al., 2018) In other words, customers demand for holistic solutions. Therefore, customers not only expect products from companies. For example, an office equipment company additionally ensures that the customer is not worry about maintenance intervals or reordering ink cartridges of the office high-performance printer.

In addition, such a service portfolio can lead to lock-in effects, customer loyalty and finally to competitive advantages. This hybridization often results in complex product-service systems. (Ehrenhöfer, Kreuzer, Aschbacher, & Pusterhofer, 2013). Those value-added services can frequently only be provided with information technology and smart services.

To refer to the consulting industry, digitized consulting processes are able to increase the transparency and simplicity. From a customer’s perspective, this leads to the improvement of the customer experience. (Greff et al., 2017)

### 3.3 Themes of e-service requirements

Hofacker et al. (2007) created a framework to describe the requirements and expectations of e-services based on different studies were conducted in the past. They identified several themes the management should be aware of when transforming services into e-services. The following table includes the findings with slight simplification. Management should be aware of these transformation aspects to successfully implement digitization strategies.

Omni-channel service provision	Channel strategy must be rethought and integrated on the strategy level of the company. There is a need to integrate customer touchpoints into a holistic customer experience.
Self-service technologies	Self-efficacy and easy access to e-services play an important role. E-services should minimize overload and risks.
Back room processes	Service fulfilment has to include back room or from the customers’ perspective invisible operations. Post purchase support activities or data security must be guaranteed.
Servicescape	Professionalism and user experience can be created through the user interface design and usability of the e-service.

Service Quality	Aspects like the reliability and easiness of use define quality characteristic of e-services.
Service failure and recovery	Strategies and checklists have to be created to avoid failure of the e-service and recover effectively.
Satisfaction and loyalty	Service processes have to be considered from the customer's point of view and usage scenarios must be worked out to ensure customer satisfaction.
Customer relationship management	Aspects like personalization, interactivity and unique service features have to be implemented to develop new CRM techniques through the entire customer lifecycle.

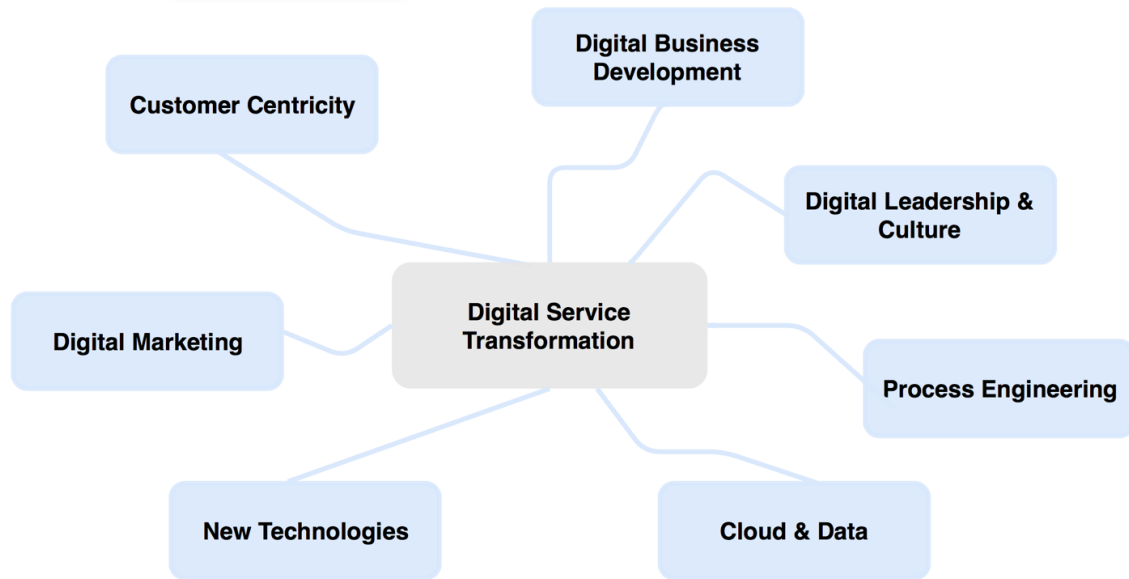
Table 2: Digital transformation themes (based on Hofacker et al., 2007)

### 3.4 Digital transformation of services

The drivers of digital transformation are technological developments (e.g., cloud, IoT, social media, big data) and new digital ecosystems (e.g., smart home, smart energy). The goal of the digital transformation is to lead a company into a form in which it can achieve a competitive position in the digital age.

#### 3.4.1 Fields of action in companies

The digital transformation can be seen from multiple perspectives and affects different areas in a company. In the following, a wide variety of application fields of service transformation will be presented. Figure 8 shows possible fields of actions of digital transformation in companies.



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Figure 8: Digital transformation fields (based on Peter, 2017; Wert, Greff, & Scheer, 2016)

The digital transformation has many facets and consists of both technical and structural, psychological-cultural and operational components. A field of action summarizes activities, processes and actions that can be defined, implemented and applied in one sub-aspect (or sub-project) of the digital transformation of companies. (Peter, 2017)

### **Customer Centricity**

Customer centricity is the concept where companies constantly place a strong focus on the customer, personalized offerings and customer portals, supported by digital technologies and channels (Peter, 2017). In other words, it is the concept of the alignment of the service processes at the customer. Decision and service processes should be thought in customer activities and customer needs. (Bruhn & Hadwich, 2017; O'Halloran, 2010)

### **Digital Business Development**

New technologies are driving companies to question existing competencies and offerings to digitize the value chain and deliver new services. It uses new platforms and channels and cooperates with a wide variety of market partners to develop innovative business and revenue models. The digital business development takes place on the strategic level of the company. ('Digital transformation', 2018; Peter, 2017; Werth et al., 2016)

### **Digital Leadership & Culture**

Leadership is often seen as an internal area which is frequently not visible for customers. Nevertheless, a positive and strong company culture is visible to the customer as it is part of the brand experience and brand perception.

The digital transformation is triggering a process of change that leads to an adaptation of the management principles in the company through change management. Part of the digital leadership and culture are creativity and innovation, the digital workplace as well as new forms of organization to share knowledge and to lead, train and motivate teams. (Peter, 2017)

### **Process Engineering**

From the customer's perspective, digital transformation involves invisible, internal processes as well as visible, external service processes. Within the customer journey, basic processes should be standardized and efficient from a company's perspective. By automating or digitizing the processes, subtasks can be networked without media disruptions. In the context of agile methods, this should increase productivity and innovation, while at the same time creating greater transparency. (Peter, 2017)

### **Cloud & Data**

Customer orientation, the development of new business models and optimized processes as well as digital marketing all require intelligent data (smart data) and new insights based on information technology (IT). At its core is the integrated or networked database, which uses intelligent analysis methods to gain new knowledge in order to make strategic decisions. At the same time, the need for flexible and accessible technological infrastructure is high. Investing in cloud and web-based solutions are common parts in the development of e-services. ('Digital transformation', 2018; Peter, 2017)

### **New Technologies**

New technologies will be used differently depending on the industry and the market performance of the company and will mainly include technology platforms, apps and software (focusing on Enterprise Resource Planning (ERP) solutions and collaboration, communication with teams and customers). ('Digital transformation', 2018; Peter, 2017; Werth et al., 2016) Technology is seen as a business enabler and enabler to develop new e-services.



## **Digital Marketing**

Digital marketing aspects include (mobile) online platforms, e-commerce, communication channels such as social media, online communities and search engine marketing, marketing automation, and video marketing. The availability and analysis of customer, service and sales data as well as the measurability of the marketing and sales activities create a system in which the market activities can be optimized continuously.

The further consideration of the digital transformation in the consulting industry therefore follows the objective of establishing e-services in consulting process. This implies that other, essential functions of the consulting process are able to be (at least partially) digitized. This includes in particular marketing, sales, fulfilment and billing. Moreover, such digitization requires a rethinking of processes and services, especially with regard to optimization and standardization. (Werth et al., 2016) This thesis focuses on such fields of action influencing the customer touchpoints and customer interaction. Therefore, the practical part of this thesis sets the focus on customer centricity, digital business development and process engineering. Furthermore, from the consulting perspective, digital marketing measures are considered.

### **3.4.2 Guiding principles of digital transformation**

Each individual stage of the transformation process is a potential challenge within a company. The initial phase includes the definition of values, vision and concrete targets. The project launch defines the strategy and way the transformation is rolled out. Finally, the digital transformation has to be scaled up and operated constantly.

#### **Defining Value**

Digital transformation requires the support from the top to the lower management. Transformation projects can only head into the right direction if the fundamental importance is supported with the commitment of the management. (Catlin et al., n.d.) The management has to communicate a vision. Investment needs to be linked to clear goals. The communication of goals can avoid possible resistance from employees in the change process. (Evans, 2015b)

### **Launch and acceleration**

Digital transformation projects are often seen as massive changes within a company. To win early support, such projects should start with lightweight projects, which can be separated from other transformation activities. Smaller projects can be done with manageable risk. The rewards and benefits of the product should be communicated to the employees. To be noted, the digital transformation team and process must be carefully considered. Experts with various competences and skills have to be facilitated in agile development methods like Scrum. (Catlin et al., n.d.) Scrum is an agile framework for the execution of projects with fixed time boxes and smaller increments as outputs within iterations in the project. Agile approaches are most common in software development. But they are also applicable for various projects including a large number of people to get something complex done. (Catlin et al., n.d.)

The acceleration of the transformation states an important task within such projects. The project members have to ensure a digital culture in the company. The digital ways of working and thinking have to be spread over the entire company. (Catlin et al., n.d.)

### **Scaling up**

If everything seems to be under control after months of the project launch, it is time to scale up the company transformation. The value of transformation outputs has to be tracked and critically rethought. (Catlin et al., n.d.)

### **3.5 Chapter summary and outcome**

This chapter gives an overview and guideline of digital transformation concerns. It also explains the requirements of e-services to successfully implement an e-service. Knowledge driven services, like many consulting services, should be subjected to a feasibility test when transforming into e-services. Therefore, a procedure is developed in which the challenges and requirements of consulting e-services can be identified with the help of a decision-making process.

The customer experience of e-services tries to encompass every aspect of the company's offering including the service itself, the advertising, ease of use and reliability. Therefore, the customer experience of e-services has to be ensured in the entire company. The use intention and perception of the e-service depends on the overall perception of the company across all touchpoints and channels. Referring to the consulting industry, digitized consulting processes can increase the transparency and simplicity. From a customer's perspective, this leads to the improvement of the customer experience.

On the basis of previous identified application fields of digital transformation, it was possible to restrict the areas which a practical e-service application has to cover. This thesis focuses on such fields of action influencing the customer touchpoints and customer interaction. Therefore, the practical part of this thesis sets the focus on customer centricity, digital business development, process engineering and digital marketing measures.

## **4 E-SERVICE FRAMEWORK**

The previous chapters explained the need for e-services in the consulting industry. The requirements and characteristics that an e-service must meet have been demonstrated scientifically and empirically. This chapter uses these insights to develop a customer-focused e-service framework. The framework defines the development process of the e-service. The key takeaways of the previous chapters serve as the basis for the construction, presentation and implementation of the planned web-based e-service. The aim of this chapter is to create an e-service framework that ensures a successful implementation of the e-service application within the next chapters and finally to ensure a useful integration of the e-service in the consulting process.

### **4.1 E-service engineering process**

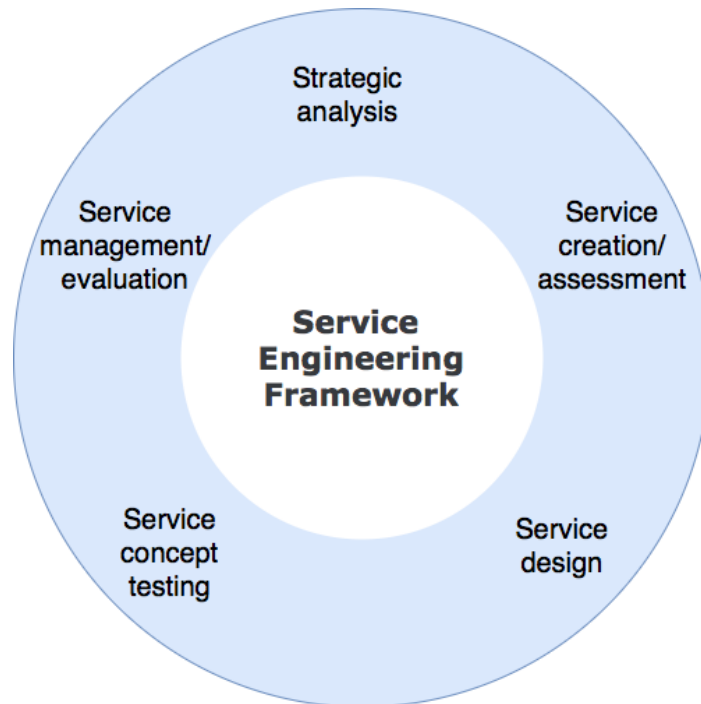
Bullinger et al. (2003) service engineering as “the systematic development of predominantly technical services by deploying engineering methods, practices and by using tools of the engineering design field”. The systematic development and procedure in developing new services form a cycle based framework (Harms et al., 2009).

The approach of this work involves the service engineering cycle based on the literature review and on the following service engineering framework (Bullinger & Scheer, 2006). Kreuzer, Schäfer and Aschbacher (2011) describe a five phases service engineering process to new innovative services. As shown in figure 9, the service engineering process is divided into five stages. The engineering framework has been considered as a cycle with continuous improvements. (Bullinger & Scheer, 2006)

#### **Strategic analysis**

The first phase is defined through analysing the current product-service portfolio. At the beginning, the search field must be identified and limited to new services. On the one hand, a SWOT analysis is conducted and the service portfolio is analysed at company level. (Ehrenhöfer et al., 2013; Harms et al., 2009)

In addition, individual search fields can be assessed in the first step as to whether the e-service fits into the service portfolio, whether market opportunities exist and whether services can be transformed from an economic and technical point of view. (Ehrenhöfer et al., 2013; Kreuzer et al., 2011) As part of the development of the e-service, this phase was undertaken in chapter 2 and 3.



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Figure 9: Service Engineering Framework (based on Kreuzer & Aschbacher, 2011)

### **Service creation**

This stage consists of the idea creation and idea assessment. Within this stage it is possible to evaluate different e-service ideas. Methods used in this stage are gap analysis, empirical studies, or customer feedback. (Ehrenhöfer et al., 2013; Kreuzer et al., 2011) Within this thesis, this stage was fulfilled within the analysis of the consulting industry and the need for e-services. The main question each consulting firm has to clarify individually is whether the e-service matches the business model, goals and the value proposition (Ehrenhöfer et al., 2013; Kreuzer & Aschbacher, 2011).

### **Service design**

In this stage, the description of business cases is included. E-Service characteristics are identified through different models and methods. The E-service requirements and characteristics are integrated into valid methods described in the previous chapters. Furthermore, it is stated that the service design consists of the service development process. (Ehrenhöfer et al., 2013; Kreuzer & Aschbacher, 2011) The process describes how the outcome of the e-service are accomplished. This stage is going to be fulfilled in the next chapter where the e-service logic concept is presented.

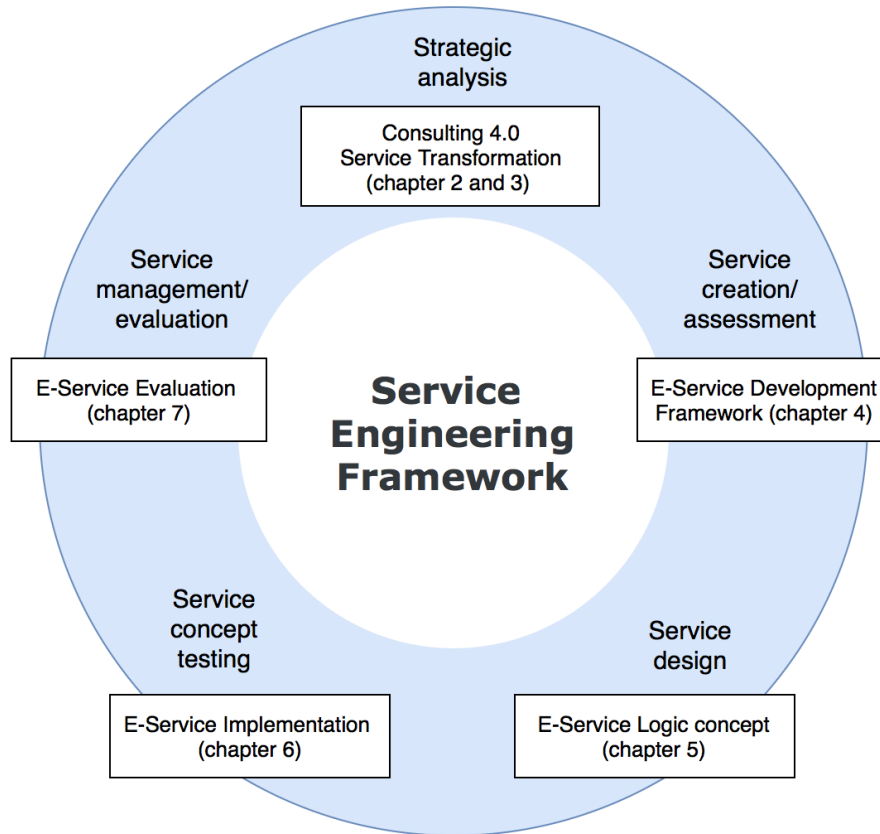
### **Service concept testing**

The service concept includes the development of a prototype of the e-service (Suhardi, Budhiputra, & Yustianto, 2014). The implementation of the e-service is done in the practical part. (Ehrenhöfer et al., 2013) The documentation and implementation process will be described in chapter 6. The prototype is tested from a usability expert as well as from a consultant.

### **Service management and evaluation**

The service management stage includes the implementation of the e-service into the service system. The launch of the web-based e-service is part of this process step in the engineering process. Besides the implementation, the evaluation of the e-service and the optimization are part of this stage. (Ehrenhöfer et al., 2013) Within this work, an evaluation will be done by expert interviews in chapter 7. Based on the results, the service optimization is done and improvements are made on the e-service.

Figure 10 shows the assignment of the topics of the thesis to the individual phases of the Service engineering framework. This approach marks the procedure of planning, analysis, creation and evaluation of the e-service application.



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Figure 10: Service engineering framework chapter assignment

## 4.2 Decision process of service transformation

Whether digital transformation of services is the right approach should be clarified within a structured decision process. The decision process includes the assessment of the process digitizability, the assessment of the benefits and the risks as well as the analysis of the financial aspects. (Nissen & Seifert, 2015) Based on the results of the assessment, e-services could be used within the consulting process.

Figure 11 shows the decision process addressing the feasibility of the digital service transformation. In the first step, the idea of the service transformation is worked out and concretized. The digitizability of the service will be undermined in the next step. In the consulting industry one speaks of the analysis phase, which contains a situation analysis.

Here, it should be clarified whether the service transformation is technically feasible and whether market conditions, resources and financial availability are given and customer needs are possible to fulfil. If the potential is recognized, benefits and risks can be worked out in detail. These have to be evaluated as well. If the expected benefits exceed the risks, the profitability of the original idea is assessed in the next decision process step. If not given, a digital transformation project should not be launched. If the potential is also seen here, the transformation project can be set in motion. (Nissen & Seifert, 2015) The transformation phase represents the next step in the process chain. This will not be explained in this elaboration. (Bruhn & Hadwich, 2017)

The planned e-service is evaluated in this decision process approach. As already mentioned, the decision-making process includes the evaluation of service digitizability, the evaluation of benefits and risks and analytics of financial aspects. Based on the results of the decision process, e-services could be applied within the consulting process. In the course of the customer acquisition and information phase in the consulting process, it has to be clarified whether the e-service is technically feasible.

In addition, the market was considered, as there is a possible demand on the e-service. Taking these aspects into account, previous chapters 2 and 3 provide the necessary information through a literature review and empirical evidence for the practice. Digitizability is assessed below in this chapter, followed by the evaluation of the benefits and risks of the e-service. Profitability is assessed in the last step of this work. After implementing the service, experts are asked to predict the profitability and the perceived usefulness of the implemented e-service. The process activities described should prove that a digitization of the service of self-conducted customer analysis is possible und useful in the consulting industry.



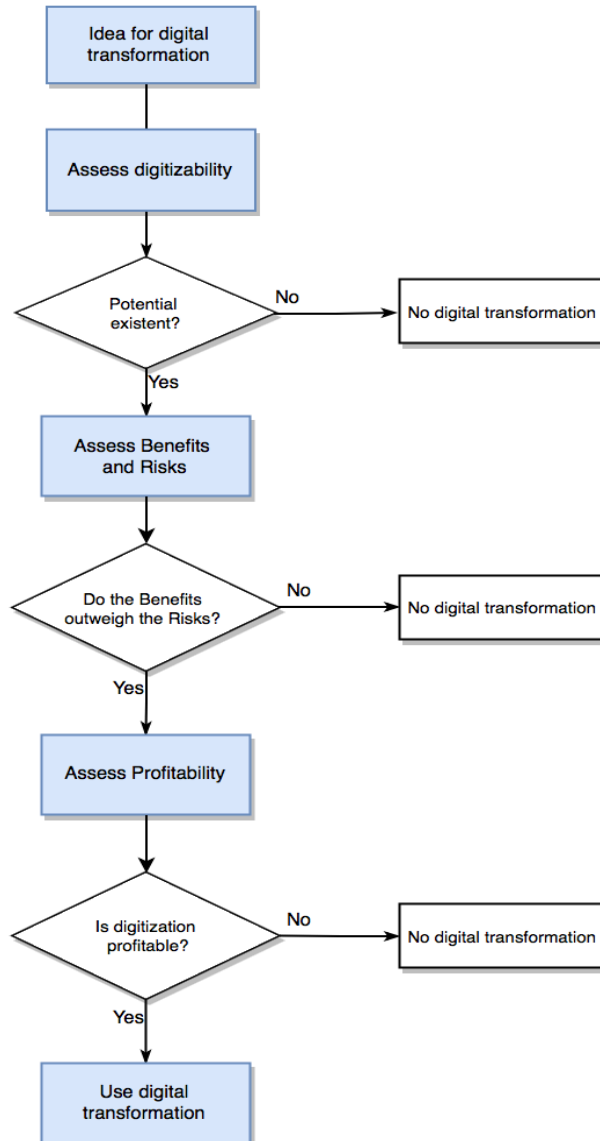


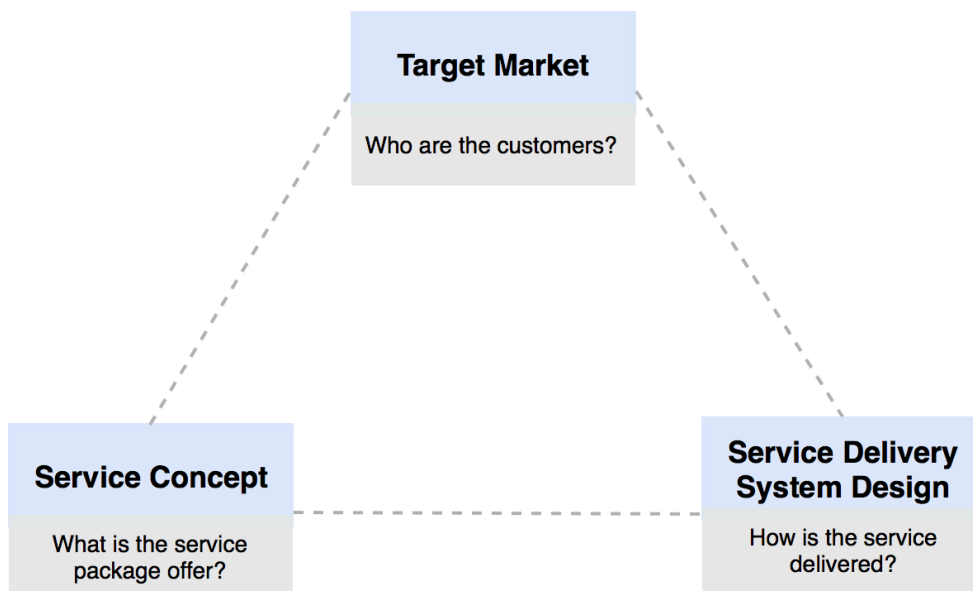
Figure 11: Decision process for digital transformation of services (based on Nissen & Seifert, 2015)

### 4.3 E-Service classification

Before the step of the implementation of digitized service is made, the classification of the customer analytic e-service and the requirements for the transformation capability of the e-service should be carried out. In order to classify and evaluate the fulfilment of the requirements, the methods of chapters 2 and 3 are applied directly to the customer analytic e-service. This procedure is additionally described with the methodology of the service triad. This allows an optimal assignment of the individual service aspects and requirements.

The result provides an assessment of the digitizability of the planned service. In addition, this method offers the possibility to delineate the e-service and to describe its requirements in the implementation.

As shown in figure 12 the service triad describes three major core areas that need to be considered when developing an e-service.



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Figure 12: Service triad (based on Roth & Menor, 2009; Trinh & Kachitvichyanukul, 2013)

### Target market

The target markets define the customers of the potential e-service. This step is essential for evaluating the relevance and the need of the service. Competition has to be taken into account. Customer target groups have to be identified as well as their needs. (Roth & Menor, 2009; Trinh & Kachitvichyanukul, 2013)

### Service concept

The service concept describes the characteristics of the e-service. It is a description of the service in terms of the features and values it provides to the customers (Roth & Menor, 2009; Trinh & Kachitvichyanukul, 2013). There are other technical and economic aspects that have to be considered. Far-reaching decisions must be made in the choice of technology stacks, the underlying infrastructure and many other technical areas. These will not be discussed in detail in the context of this elaboration. While technology affairs refer to technical feasibility, economic issues refer to e.g. cost and marketing themes.

### **Service delivery**

The service delivery addresses the question how the service is delivered to target customers. The key decisions involve the customer interaction between the service and the customers itself. Customer touchpoints are defined and formed to a holistic customer experience. The distribution channels of the service (e.g. the availability of the customer analytic e-service application on the corporate consulting firm's website) must be considered. (Roth & Menor, 2009; Trinh & Kachitvichyanukul, 2013)

In the next step, the lessons learned from chapters 2 and 3 are transferred to the customer analytic e-service and assigned to a component of the service triad.

### **Consulting service process classification**

The *acquisition phase* of the consulting process includes the *information process*. As mentioned before, consultants need to gather relevant information about their (potential) customers, to be able to present consulting approaches and solutions later on. (Lippold, 2013) The customer analytic e-service is used in this early stage. The e-service is able to assist the consultant in the information process.

The *analysis phase* is part of the service engineering process. Based on the gathered information in the first stage, consultants use consulting tools like a situation analysis to identify the key drivers of the competition, the market and key drivers on the company level. (Lippold, 2013) From this, further findings can be derived. Therefore, the goal of the two phases involves obtaining information about the client, his goals and motivations to hire a consulting agency. It is also part of the situation analysis and assessment of the customer's initial situation, the competition and the determination of the potential in the following consultation steps. The consulting service process model can be assigned to the *Service Delivery* and *Target Market* component in the service triad.

### **Service buying process**

The preceding consulting process characterizes the e-service from the perspective of the consultants. The service buying process represents the assignment of the e-service from the customer's perspective.

In the *information phase*, the customer wants to gather information about possible solutions to the problem. In this early stage, the customer must be offered a solution for his problem. As mentioned in the previous chapters, the key task is to identify the customer's problem to provide assistance in that early stage. (Greff et al., 2017) The customer analytic e-service is therefore to classify in the information phase, where the

problem of the potential customer is determined. A first diagnosis can be made with the help of the e-service. This is presented to the customer, for example, in the form of an offer via concrete consulting measures. Only when the following decision-making process, here the acceptance of the offer, has been completed, the purchase of consulting services and concrete measures will continue. Same as the consulting service process, the service buying process can be assigned to the *Service Delivery* and *Target Market* component in the service triad.

### **Maturity Model of service digitization**

The e-service is predominantly in the area of the *Upward-Climber* level, where projects are still mainly handled face-to-face. Technology is used to digitize and automate sub processes. In addition, the e-service can also be classified as an *Established-level* approach, where individual consulting processes are fully automated and digital. (Keuper et al., 2018) The degree of maturity of digitization can be assigned to the *Service Delivery* component in the service triad.

### **Classification of digitization and virtualization**

The customer analysis e-service is part of a virtual assessment. It is classified as an *Online Self-service*. The self-service substitutes face-to-face contacts in particular consulting stages through software support or applications. (Nissen, 2018) Additionally, it belongs to the *computerized consulting*. The e-service focuses and supports on the process of a consulting e-service. A substitution of consultants is only present in the particularly in the acquisition and information stages in the consulting process. (Leimeister, 2012) The practical part of the thesis includes the implementation of a e-service in early consulting phases. In this stage the contribution of consultants is very low, but client contribution is very high. The classification of digitization and virtualization level can be assigned to the *Service Delivery* component in the service triad.

### **Service virtualization potential**

Within the service virtualization potential analyses, it has to be clarified which requirements a consulting service has to fulfil to be transformed. The influencing factors were still presented in chapter 2 in detail. Keuper et al. (2018) describe following influences of complexity, interaction, urgency and trust were identified as important requirements of the virtualization potential of services.

Less *complex* consulting services offer a high virtualization potential. (Keuper et al., 2018). The results of the theoretical part show that the customer's information and analysis phase are less complex than subsequent consulting steps.

A high *interactivity* in the consulting service process limits the virtualization potential. The interactivity includes the duration and frequency of the interaction between the customer and consultants within this consulting process step. (Keuper et al., 2018). At this point, the e-service should be limited to the digitization of a sub-process in the analysis phase, since a high level of interaction is necessary, especially in the first customer contact phases. Consultants who want to automate the entire analysis process run the risk of losing the customer due to the lack of proximity to the consultant.

The perception of the *urgency* and availability of the service is another requirement. In order to offer the potential customers a higher perceived flexibility and availability of the service, the e-service defines an additional communication and sales channel for consulting firms. (Keuper et al., 2018). By digitizing the service in the customer analysis, a 24/7 availability can be ensured.

The *trust* between consultants and customers is one of the core criteria for assessing quality. The virtualization of consulting reduces the direct contact between the consultant and customer. As a result, there is a risk to lose quality within the relationship. For the virtualizability of consulting services, it tends to be more successful if an established relationship is given. (Keuper et al., 2018). Therefore, the initial contact with the customer should be made personally or at least by phone. Based on this, the potential customer can be explained the further procedure in the consulting process in order to gain trust in the e-service.

The service virtualization potential can be assigned to the *Service concept* component within the service triad.

### **Characteristics of e-services**

In order to be able to successfully transform a service, the following requirements for e-services could be identified.

The ability to service *standardization* is an essential requirement. The consulting process is divided into individual stages. The more advanced the stage, the more individual the consulting approaches or strategies that are applied for each customer. Standardization thus lends itself to the first phases of the consulting process. (Seifert & Nissen, 2016) This is where the e-service comes in, which digitizes the information and analysis phase at the very beginning of the customer contact circle.

The *modularization* of the e-service is ensured by means of the technical architecture. (Seifert & Nissen, 2016). The modular structure of the query complex allows the exchange and extensibility of the e-service.

A *customization* may be made as part of an extension of the e-service for other purposes. Primarily, an individualization in the context of the use of the e-service is made possible. Depending on the answer to a question or input of the potential user, logic jumps are integrated within the e-service application. These refer customers to follow-up questions based on previously selected answers and fulfil the requirement of the e-service customization.

The *integration* of e-services into the consulting process is ensured by the fact that the results of the e-service can be made available as part of an expansion of the online application via Application Programming Interfaces (API). For example, Customer Relationship Systems (CRM) systems can be connected to the e-service application. In addition, the collected data can be further processed to carry information about the customer throughout the entire consulting process.

The centricity of the e-service always takes place at the customer. For this reason, the development also emphasizes the optimal presentation of the online application on all digital devices. A responsive design also allows the participation via smartphones and tablets and is characterized by the usability of e-services. Likewise, once the e-service has been used successfully, the customer will be notified, thanked for their participation and the further consulting steps are communicated.

The required characteristics of e-services can be assigned to the *Service concept* component within the service triad.

### **Types of e-services**

E-services can be divided into different types. The customer analyses e-service application can be seen as a *complement* service. As mentioned before, complemented services are complements to existing offline services. As a result, no substitution of consultants is sought. (Hofacker et al., 2007) The e-service is considered as an additional sales channel.

The primary requirement for developing e-services is the *codification of knowledge*. Knowledge driven services, like many consulting services, are not easy to digitize. Within the digitization the tacit consulting knowledge needed for the service has to be turned into explicit or codified knowledge within the transformation. (Scupola et al., 2009)

The e-service therefore refers purely to the customer analysis and the assessment of the initial situation. Based on the results, consulting approaches and measures can be developed. Mainly, these steps mainly require experience and implicit knowledge.

### **Customer expectations on e-services**

The users of the e-service set expectations and requirements for the web-based e-service, as described in chapter 3. Hofacker et al. (2007) describe the following themes of customer expectations on e-services:

#### *Omni-channeling*

Within an omni-channeling approach the customer touchpoints of the e-service need to be integrated into a holistic customer experience (Meyer & Schwager, 2007). The e-service is perceived as a complementary touchpoint for (potential) customers. It is recommended to implement the e-service within other channels. For example, the e-service can be integrated on the existing company website, or at least advertised and linked from other company channels. According to this measure, a holistic customer experience should be maintained.

#### *Self-service technologies*

The optimal usability of the e-service should allow self-participation by the potential customer. In order to ensure the easy accessibility of the e-service, it is made available freely as a web-based solution on the World Wide Web.

#### *Back room processes*

In the implementation of e-services, the security aspect in particular will play an important role. The e-service is provided with Secure Sockets Layer (SSL) encryption on the World Wide Web. Therefore, this can only be achieved via the Hypertext Transfer Protocol Secure (https: //). Thus, the data entered by the subscriber will be sent encrypted.

#### *Servicescape*

As already described, the user experience plays a crucial role in the successful participation and reduction of barriers to participation. The participant of the e-service application will be guided through the questionnaires with an interactive design and setup of the e-service. The responsive design of the web solution also contributes to making the e-service optimally available on mobile devices.

### *Service quality*

There are a lot of quality aspects of software and web-based solutions in literature. The main quality aspects within this work are the easiness of use and the reliability of the service. As already described, usability is a key decision criterion. The e-service application content, the questionnaires, are also checked for easy comprehension in advance.

### *Service failure and recovery*

In order to ensure a high level of service reliability, the e-service is hosted on the servers of a local IT service provider. This ensures a reliability of more than 99 %. In addition, automated backups of the e-service application are constantly being created.

### *Satisfaction and loyalty*

To ensure customer satisfaction, usage scenarios are worked out in advance. In the course of this, usage scenarios are created with the help of Personas, which represent different usage models and characteristics of the participating persons. The method of Personas will be applied within the evaluation of the e-service in chapter 7.

### *Customer relationship management*

The successful participation of the potential customer in the e-service is stored in a CRM system. There, participation in the customer lifecycle is traded as a customer acquisition. Further measures, such as the customer being contacted on the basis of his participation, or which measures and consulting products are offered to him in the further course, are also stored in the CRM system. Thus, the management of the customer relationship can be guaranteed throughout the entire customer lifecycle.

## **Service transformation**

As part of the service transformation, the e-service encompasses all fields of application and perspectives of the digital transformation of services. Peter (2017) and Wert et al. (2016) defined the following fields of action in companies:

### *Customer centricity*

Customer Centricity is ensured by the service availability as a digital channel. As explained in this work, there is a need for digital solutions in the field of consulting. With the creation of the e-service the demand of the customer can be met.



### *Digital Business Development*

The e-service aims to create an understanding and need for e-services in the consulting industry. In the further course, existing business models can be reflected on and, if necessary, new services can be offered as part of digital business development.

### *Digital Culture*

In addition, the e-service aims to promote the digital corporate culture. With the implementation of digital solutions, the importance of digital transformation in the company is able to be communicated.

### *Process Engineering*

The aspect of process engineering is also focused within the implementation of the e-service application. It forces consulting firms to critically reflect and discuss existing processes and their efficiency in the delivery of services. Digitalization can bring innovation advantages in terms of competition. By automating and standardizing customer analytics, a higher efficiency and a potential shortage of consultants at this stage can be circumvented.

### *Cloud and Technologies*

To ensure flexibility and interchangeability of the e-service, a cloud and web-based solution is used. The e-service is built on the infrastructure of the software-as-a-service-host Typeform S.L (see chapter 6 for more details). As a result, a good extensibility of the e-services can be made. The e-services can be integrated with a web API into existing channels, such as the corporate website.

### *Digital Marketing*

Digital marketing strategies are used to communicate the offer and to increase the awareness of the e-service. Above all, the focus is on the dissemination of a digital image of consulting companies, which should be disseminated in the perception of potential customers. Further marketing measures are not part of this elaboration. Nevertheless, in the specific implementation of the addressed consulting agency, further measures are taken in the area of social media, search engine optimization, search engine marketing and further measures.

## 4.4 Analyses of the e-service benefits and risks

The identification of benefits and risks represent a central decision aspect in the development of an e-service (Seifert & Nissen, 2016). Benefits can arise for the potential customer as well as for the consulting agency. There can also be risks for both parties. These must be subjected to an analysis in advance, in order to evaluate the economic and technical feasibility of an e-service. As already described in the decision-making process for the transformation of services, the benefits must outweigh the risks (Nissen & Seifert, 2015). In addition, the risk analysis must identify whether the risks can have an unacceptable level of harm to the business.

From the customer's perspective, the benefits and risks are described in the Value Proposition of the business model level but also at the service level (Schüle, Schubert, Hoyer, & Dressel, 2016; Suhardi et al., 2014). The value proposition approach is used below to identify the benefits and risks from the customer's point of view. The concept of the Value Proposition, invented by Alexander Osterwalder, is a widespread approach to assess why customers should buy a particular product or service and finally defines the USP (Osterwalder, Pigneur, & Clark, 2010). As shown in figure 13, this procedure identifies Gain Creators and Pain Relievers. The basis for this is the description of the e-service. This has already been done in this chapter. Now factors are considered from the different perspectives that yield benefits. The next step identifies risks for which problem-solving approaches are presented.

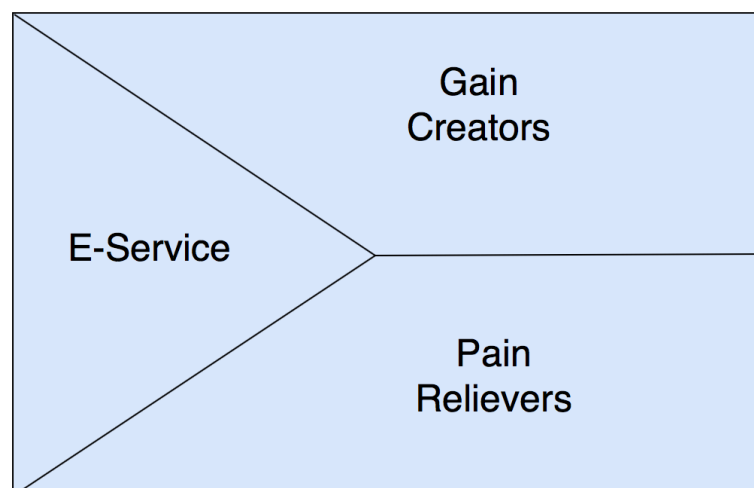


Figure 13: Value Proposition Canvas (based on Osterwalder, Pigneur & Clark, 2010)

The research question of this thesis deals with the usefulness and possible risks of the e-service from the consultant's point of view. This will be done in detail during the evaluation of the e-service in chapter 7. In the following section, the benefits and risks and its relation to the customer's perspective are described. The perceived usefulness of the e-service from the customer's perspective is the basis for the usefulness from the consultant's point of view.

The following Gains and Pains result from the derivation of the characteristics and requirements that are set to the e-service. In addition, empirical surveys were conducted in existing literature to identify expected benefits and risks from a customer's perspective. (Keuper et al., 2018; Nissen & Seifert, 2015; Schüle et al., 2016) Table 3 shows a summary of potential benefits and risks.

Benefits	Risks
Higher service flexibility	Communication and coordination problems
Higher service availability	Weaker client-consultant relationship
Higher reaction and working speed	Lower perceived service quality
Lower prices	Lower level of trust
Use of innovative consulting solutions	Data and security threats

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*Table 3: Benefits and risks of the customer analytic e-service application*

### **Gain Creators**

Gain creators are determined by the benefits of the e-service (Osterwalder et al., 2010). Due to the increased flexibility in the consumption of the service, an added value can be generated (Keuper et al., 2018). Since the physical presence of a consultant is substituted, there is no time and place constraint in conducting the customer analysis. The web-based application is therefore not bound by any time limits in the consulting stage of customer analysis.

An increased availability of the service is achieved through 24/7 accessibility. An increase in the reaction and work speed also provides a benefit for the potential customer. (Nissen & Seifert, 2015) In the customer analysis, therefore, there is no time shortage caused by

the physical presence in one place by the consultant. As a result, inquiries can also be processed faster and more efficiently, and the potential customer receives an offer faster.

It is usual for initial consultant hours to be paid with a fee. When the consultant conducts the initial briefing and an initial customer analysis at the customer's site, costs often arise from the customer's point of view. The payment model of the e-service delivers the web-based e-service free of charge. This measure is intended to reduce inhibition thresholds for the participation. Only the consulting services based on the result of the customer analysis will be provided with a fee. Summing up, the e-service reduces costs for the potential customers (Nissen & Seifert, 2015).

Overall, the use of an innovative digital service consulting solution contributes to the positive perception of an increased user experience (Nissen & Seifert, 2015). The ease of use of the e-service application can create an experience for the potential customer.

### **Pain Relievers**

Pain Relievers are developed to minimize or avoid potential risks. These provide measures or precautions to avoid being exposed to the potential risk. Therefore, Pain Relievers produce a positive change in the customer's mind by reducing his pains. (Osterwalder et al., 2010)

The lack of physical presence of a consultant in the execution of the customer analysis can cause communication and coordination problems (Keuper et al., 2018). With human empathy and experience of the consultant, for example, the true expectations and wishes of the potential customer can be captured with physical presence depending on the situation. The consultant can also actively intervene in determining the problem. One possible countermeasure is the requirement of the initial face-to-face contact between the consultant and the potential customer. This can help prevent communication problems at the beginning and allows the consultant to decide individually whether the e-service is being used or the physical presence of a consultant is necessary in this consulting stage.

The reduced interaction between the potential customers and consultants could cause a weaker client-consultant relationship (Keuper et al., 2018). For this reason, the digitization of more complex consulting processes is ignored. The e-service is therefore only used in the analysis phase in the consulting process. Customer acquisition, personal contact and further consulting services are carried out with the help of consultants in order to establish a personal customer relationship.

As a possible danger, the reduced quality of the service can be seen (Nissen & Seifert, 2015). The potential customer receives a free service that could communicate a diminished value. Likewise, the potential customer perceives the service as standardized and not individualized. This risk should be eliminated by communicating the benefits of the e-service. Based on the results of the customer analysis, the knowledge and experience of the consultants is applied in further consulting stages and a paid service is provided. In addition, it can be communicated as a customer's benefit that services are only billed that contain concrete solutions and measures for solving the customer's problem.

Digitalised services are in danger of losing confidence due to the lack of face-to-face contact. In the course of participation in the web-based customer analysis confidential and sensitive information is transmitted. If there is no personal initial contact with the potential customer, the data is transferred to unknown persons from the customer's perspective. In order to strengthen confidence, the initial personal contact is again recommended. In addition, the privacy policy should clarify how data security can be guaranteed (Nissen & Seifert, 2015). It will also communicate how to deal with system failures and other security threats (Evans, 2015a). As already explained, data encryption and other factors are used in this case.

## **4.5 E-service application fields**

The main target group of the e-service are companies that seek consulting services mainly in the areas of public relations, advertising and corporate communications. With the help of the e-service application, the digital competence of the responsible agency in the information and acquisition phase of the customer should be placed in the foreground. As described in chapter Consulting 4.0, many consulting agencies consult their customers in digitization strategies. But the services of the agencies themselves are still not digitized.

The web-based customer analytic e-service addresses PR, advertising and communication agencies. The selection of services was created with the common service offered by consulting PR and advertising agencies. The service portfolio was gathered by ten local agencies within an online search on the individual company websites. The focus lies on the following consulting areas:

## **Strategy and Positioning**

Strategic communication measures are being developed in this service sector. The strategic brand positioning as well as the development of the corporate identity represent central services. The focus is on the development of strategies in online communication. In doing so, channels such as the company website, Social Media channels and others are subjected to a strategic analysis in order to work out specific measures.

## **Digital and Web**

The service category Digital and Web forms the core of the addressed portfolio represented in the e-service application. Within the customer analysis, this area will determine whether digital channels have already been developed or where there is a need for change. The individual consulting measures and services are defined as follows:

- Web Development (Websites, Web Shop, Landing Page, Mobile Application)
- Search Engine Optimization (SEO)
- Social Media Channel Development and Marketing
- Corporate Blogs
- Mailing and Newsletter Communication Development
- Video and Animation Content Development

## **Public Relations**

Agencies including PR services in their portfolio usually offer a wide range of services in the area of content strategy development, media relations, texting, press conferences and other related services. In order to convey the digital background of e-service, the main focus is on Online PR measures. Online PR is also concerned with the distribution of content over the World Wide Web. For example, topic setting and community management are developed for social media channels.

## **Campaigning and Advertising**

Services in this category include the creation and implementation of promotional campaigns. The main focus is on digital advertising campaigns as well. These include Online Media Planning, E-Mail and Newsletter Marketing, Search Engine Advertising (SEA), Display Advertising, Video Advertising and Social Media Advertising.

## 4.6 Chapter summary and outlook

In this chapter insights from literature were used to develop a framework for a customer-focused e-service application. The aim of this chapter was to create an e-service framework that ensures a successful implementation of the e-service application within the next chapters and finally to ensure a useful integration of the e-service in the consulting process.

The approach of the service development process follows a service engineering cycle. The process describes how the outcome of the e-service is accomplished. Within the service engineering cycle, the service characteristics are identified through different models and methods. The procedure described in this chapter has shown that a digitization of the service of self-conducted customer analytic is possible and useful in the consulting industry.

Firstly, consulting firms have to clarify individually whether the e-service matches the business model, goals and the value proposition. Secondly, it has to be clarified whether a service transformation is technically feasible and whether market conditions, resources, financial availability are given and whether customer needs are potentially fulfilled with the e-service. This procedure was described with the methodology of the service triad. This allows an optimal assignment of the individual service aspects and requirements. The classification provides guidelines for the development of the e-service for the next chapters of this thesis. If the potential of the e-service is recognized, benefits and risks can be worked out in detail. Benefits and risks were identified on the basis of the e-service assessment framework. The Value Proposition has been defined, risks have been assessed and presented to Pain Relievers in order to avoid or minimize them to develop a useful e-service application.

Finally, a demarcation of the fields of application of the e-service could be made. The web-based customer analytic e-service addresses PR, advertising and communication agencies.

## **5 E-SERVICE LOGIC DEVELOPMENT**

The previous chapter has dealt with the requirements, characteristics and application scenarios surrounding the e-service. The core function of the e-service application defines the query complex of the customer analytic application. The query complex contains all questions that are posed to the potential customer within the participation to the e-service application. The query complex must follow a logic developed from consulting models, tools and well-known approaches in the consulting industry.

### **5.1 E-Service development approach**

The objective of the chapter is to identify consulting tools used to analyse the customer's company and his environment from a consultant's perspective. Based on this, expected findings and results, which can be obtained from the consulting tools, are identified.

As a basis, known consulting tools from the literature are presented. As discussed in the previous chapter, the focus will be on approaches that PR agencies, advertising agencies and business consultants use in the context of corporate strategy development and communication measures. This is done with the principles of qualitative content analysis by Mayring (Mayring & Brunner, 2007). Key elements and determinants are worked out from the consulting tool template.

Then logic segments are classified on the basis of the template and get assigned to the consulting tool determinants. Based on the individual logic segments, the query modules of the e-service application can be defined. These can be exchanged, for example, subsequently, depending on the requirement or response behaviour of the potential customers (participant of the e-service). As there are content overlaps in the consulting tools' outcomes, the individual logic segments in the modules are grouped together if needed. Finally, the derived insights and results of each tool can be used to generate specific questions for the e-service. The resulting query complex is used in the practical implementation of the E-service.

The query complex that is extracted from the consulting tools will take on the function of a requirements analysis in the context of e-service. The structure and the query logic follows the principle of "core question analysis", invented by the consulting firm McKinsey



(Lippold, 2013). In this way, the hierarchical structure of the modules resulting from the consulting tools and individual questions can be mapped depending on the response behaviour of the potential customers attending to the e-service application. With the complete answer of the questions conducted by (potential) customers, finally, the need for consulting services should be raised.

## **5.2 Classification of consulting tools**

Consulting services and the consulting process are too different from consultancy to consultancy mandate, which makes them very difficult to describe. Therefore, only an attempt can be made to systematise and explain consulting concepts, tools and methods that are incorporated into service process of consultants.

The key question arises as to which problem-solving technologies consultants use to present and implement consulting approaches to potential customers. Consulting technology combines all consulting tools and know-how components consultants use to consult their customers. A classification of consulting tools is worked out within this approach. The logic of the e-service application is developed with the help of consulting tools. The results of the e-service provided by potential customers after answering the questions will use the know-how of the consultants to sell the consulting approaches as a consulting technology. (Lippold, 2013)

The typical process phases of the consulting process were explained in figure 4 in chapter 2. The individual consulting phases, the associated processes and the underlying consulting technologies were presented. The acquisition phase includes the information process. As mentioned in chapter 2, consultants gather relevant information about their (potential) customers, to be able to present consulting approaches and solutions later on. Based on the gathered information in the first stage, consultants use tools to analyse the customers' company, the company's environment, competition and the potential that can be achieved through consulting services. Now the consulting technologies of the analysis phase are being worked out in detail. Figure 14 shows the classification of consulting technologies in the analysis phase.

The following classification was made from the literature about consulting technologies in situation analysis, potential analysis and strategy development in management consulting. (Bamberger & Wrona, 2012; Ehrenhöfer et al., 2013; Hax & Majluf, 1991; Kotler, Keller, Brady, Goodman, & Hansen, 2016; Lippold, 2013; Meffert, Burmann, & Kirchgeorg, 2015; Osterwalder et al., 2010; Wesselmann & Hohn, 2012)

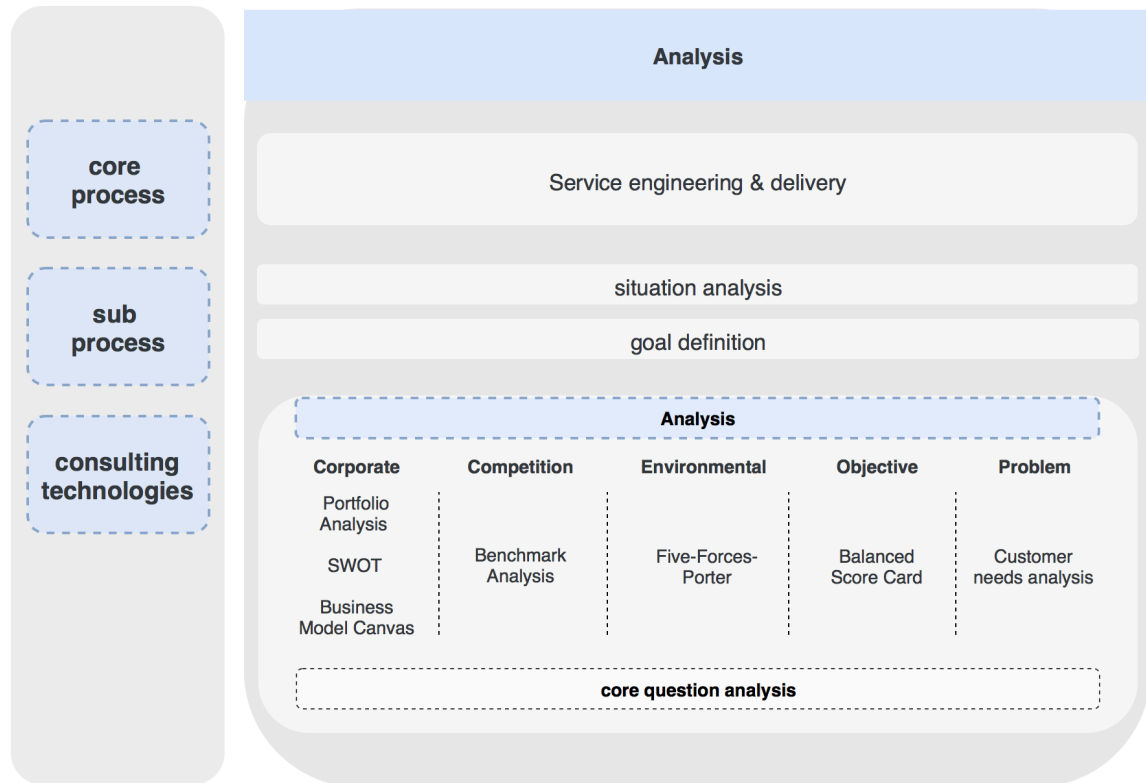


Figure 14: Consulting technologies in the analysis phase of the consulting process (based on Lippold, 2013; Reineke & Bock, 2007)

The **company analysis** examines internal as well as external factors that affect the company. As part of a portfolio analysis, the service portfolio is analysed using standardized portfolio tools. Likewise, the internal strengths and weaknesses as well as the external opportunities and risks of a company are analysed on the basis of a SWOT analysis. The Business Model Canvas systematically describes the components of the business model.

The **market and competition analysis** examine relevant competitors and key influencing factors of the market, which can significantly influence the company's strategy development and communication measures.

The **environmental analysis** examines external factors that can be injected by technology, business sector, politics or stakeholders. The five-forces model identifies and analyses the influential forces.

The **objective analysis** evaluates the objectives of the company with the help of a Balanced Score Card. The formulation of goals and their accessibility is examined by multiple company dimensions.

Within the problem analysis, the **customer needs analysis** examines the key requirements and expectations of potential customers, who are put to the consulting service. With this technique, the problem of the potential customer can be identified.

### **5.3 Consulting tools for customer analytics**

The following consulting tools are now presented in detail from the previous classification of consulting technologies. Core elements regarding information gathering and the expected result of the consulting tool are presented. A detailed description of the procedure in the creation and handling of the individual tools is not part of this thesis and is presupposed to the addressees. In addition, only relevant topics to the e-service application are worked out.

#### **5.3.1 SWOT-Analysis**

A SWOT analysis is carried out to evaluate a company's competitive position by discovering strengths, weaknesses, opportunities and threats. The SWOT analysis is an essential assessment model. (Hill & Westbrook, 1997)

In the first step, strengths and weaknesses are compared. These are identified from the previous conducted corporate analysis. These include the resources, capabilities and potentials required to achieve strategic goals. In the next step, opportunities for the company are identified. These are identified from the previous conducted environment analysis. These are compared to the risks and threats. (Lippold, 2013) The result of both analyses is an objective picture of the initial situation and the position of the company. It compiles information in order to develop strategies based on it. (Hill & Westbrook, 1997)

The four factors should be considered from both an internal perspective, from the point of view of the customers and competitors in your market (Kotler et al., 2016).

To be noted, the SWOT analysis keeps cross references to other analysis tools. In practice, the results of corporate, competitor, market and environmental analyses are often converted into a SWOT analysis and combined. (Wesselmann & Hohn, 2012)

### **5.3.2 Business Model Canvas**

The Business Model Canvas is a strategic tool and concept to easily visualize the business model of a company. Nine blocks of the Business Model Canvas analyse the company's customer segments, value proposition, customer relationships, channels, revenue stream, cost structure, key resources, key partners and key activities. (Osterwalder et al., 2010)

Furthermore, the Business Model Canvas is used to identify search fields for new services in the current business model. (Hill & Westbrook, 1997; Kotler et al., 2016; Lippold, 2013)

As already mentioned, the Business Model Canvas describes the entire business model and business logic of the company. The customer analytic e-service application addresses consulting approaches in strategy consulting, brand positioning as well as advertising and PR measures. For this reason, the further query complex of the e-service focuses on the blocks Customer Segments, Channels, Value Proposition and Customer Relationships more sophisticated than the other segments of the Business Model Canvas. These are described below in further detail.

#### *Customer Segments*

The identification of customer segments is the starting point of the considerations within the Business Model Canvas. As a result, groups of people with specific characteristics and behaviour are divided into customer segments. (Osterwalder et al., 2010)

The analysis of the target groups is often performed according to the following criteria: (Meffert, Burmann, & Kirchgeorg, 2015)

- Behavioural: include the use of media, price and buying behaviour
- Psychographic: address personality traits, product- and performance specific traits
- Socio-demographic: include demographic characteristics such as gender, age, marital status and socio-economic characteristics such as occupation, education and income
- Geographically: define local restriction of the target group according to countries, federal states or specific areas

The analysis of the customer segments is important to understand the different groups of people and thus understand the behaviour of potential customers. In practice, people often work with the concept of Personas. Personas are user models that characterize persons of a target group with their characteristics. An attempt is made to immerse oneself into the personal world and to identify his wishes and expectations regarding products and services. (Osterwalder et al., 2010)

Target groups can also be approached differently in communication and distribution channels on the basis of segmentation. Various distribution channels, such as online and offline sales, can be advertised differently to different segments. (Lippold, 2013)

### *Value Proposition*

The value proposition is the promise about the value of the product or service. This is tailored to the needs of the customer segment. According to Osterwalder (2004), the value proposition of a company is what distinguishes it from its competitors. It provides value through various sources such as brand, image, design, price, cost reduction, usability, customization, newness, performance and so on. (Osterwalder, 2004)

### *Channels*

This area determines which distribution and communication channels are communicated with customers and through which channels the products and services are sold. The Value Proposition is delivered to the target group via channels. (Osterwalder, 2004) As part of the customer analytic e-service, the focus will be on the communication channels in the online area. These include websites, web shops, search engines, social media channels, blogs, forums, online media, e-mails and further digital communication channels.

### *Customer Relationships*

Customer Relationship manages the acquisition of potential customers and the interaction with current customers. It includes the measures a company takes to build customer loyalty and to attract new customers through marketing and measures. (Osterwalder, 2004)

### *Revenue Streams*

Revenue models describe how the company make income. Revenue sources can vary from customer segment to customer segment. (Osterwalder, 2004) There are several ways to generate revenue streams like subscription fees, leasing, licensing or revenues

generated from charging fees for advertising or the most common type through asset sales of products or services. (Osterwalder et al., 2010)

#### *Key Resources*

Key resources are necessary to offer the products and services. These could be human, financial, physical and intellectual resources. It is important to identify the key resources that will benefit the customer. (Osterwalder et al., 2010) It is necessary to understand which individuals or organizations can be identified as key resources. People who significantly contribute to the company's reputation or groups of people who, for example, have the opinion leadership in social media should be identified.

#### *Key Activities*

The key activities are the most important tasks, measures or processes in executing the company's value proposition (Osterwalder, 2004). The customer journey as well as a service blueprint can be used to identify important touchpoints.

#### *Key Partners*

The key partners that represent an important role for the existing business model are addressed. Key activities and resources which are dependent on partners are also listed and their dependency is checked. (Osterwalder et al., 2010)

#### *Cost Structure*

The cost structure describes the characteristics and classification of the costs arising within the company. Fixed costs and variable costs are analysed. The business model is evaluated to see if for example economies of scale or economies of scope are possible. (Osterwalder et al., 2010)

### **5.3.3 Portfolio analysis**

There are several types of portfolio techniques and tools used to determine product-market-strategies. Portfolio analysis is also important in assigning brand, product and service positioning to the market. (Bamberger & Wrona, 2012; Lippold, 2013)

The Growth/Share-Matrix invented by the Boston Consulting Group is used for competitive analysis. Their goal is to harness a competitive advantage in several dimensions of the business. Business units or individual products and services are entered in a 4-field matrix. These are assigned to the dimensions of market growth and relative market share. Depending on the location of the product or service, strategies can

be derived. For example, “Cash Cows” are units that have low market growth but a relatively high market share. Therefore, the profits should be skimmed off and invested in “Stars”. These show high market growth and high relative market share. “Question Marks”, on the other hand, still have a low relative market share but high market growth. While “Poor Dogs” are experiencing low growth or even decline in demand and have a relatively low market share. The latter are to be withdrawn from the service portfolio. (Bamberger & Wrona, 2012)

There are also more well-known portfolio analyses that have been used by world-renowned consulting firms in recent decades. Some are based on the fact that products and services follow a life cycle model, which is portrayed in the portfolios with specific action strategies. (Wind & Mahajan, 1981)

Probably the best-known alternative to the Boston Consulting Group's 4-field matrix is the 9-field matrix from General Electric and McKinsey & Company. The additional axes allow greater consideration of complexity. (Bamberger & Wrona, 2012)

As part of this work, it will refrain from presenting any further portfolio analyses. The basic idea remains with the understanding of an analysis and can be applied to further portfolio tools.

### **5.3.4 Five-Forces-Model**

The Five Forces Model is also known as the industry structure analysis. It is a framework for assessing and evaluating the competitive strength and position of a company. (Lippold, 2013) The Five Forces Model is useful to understand the competitive position, and the position that a company may look to move into.

The model puts five influencing factors of an industry at the focus of the analysis: (Kotler et al., 2016; Lippold, 2013; Meffert et al., 2015)

- Supplier power: It is driven by the number and bargaining power of suppliers. The uniqueness of their products or services and the cost of switching from one supplier to another are assessed.
- Buyer power: The bargaining power of customers tells how easy it is for buyers to drive prices down or to set public pressure on the company.
- Competitive rivalry: The main drivers are the number and capability of competitors in the market. Competitors, offering undifferentiated products and services, reduce the market attractiveness.

- Threat of substitution: Customers availability of existing and new substitute products and services. It is an indicator of the likelihood of customers switching to alternatives.
- Threat of new entry: Profitable markets attract new entrants. A high customer loyalty, product differentiation and entry barriers play an important role.

The environmental analysis as a consulting tool overlaps in many areas with the Five Forces. The market as well as economic, legal and social conditions are examined within the environmental analysis. (Meffert et al., 2015)

### **5.3.5 Benchmark analysis**

This method is designed to analyse the company's competitors through systematic and continuous comparisons of companies or parts of companies. Benchmarking is based on the orientation towards a direct competitor, the market leader, or other comparable groups. In this analysis, competitors will be used as the comparison group. (Lippold, 2013)

Properly conducted benchmarking helps to better assess your own strengths and weaknesses and compares them with relevant competitors. This should be able to improve the competitive position. (Lippold, 2013; Meffert et al., 2015)

The competition analysis is often performed with a Strength-Weakness (S-W) profile. It compares critical success factors with a direct competitor or the industry leader. Critical success factors can be contained in all divisions of a company. This paper considers factors such as strategy, communication & marketing, sales channels and market share. (Meffert et al., 2015)

To be noted, a delineation of relevant factors to be analysed must be made on a case by case. The components of the SWOT analysis and the Five-Forces are also potential benchmark factors.

### **5.3.6 Balanced Scorecard**

The basic idea of the Balanced Scorecard is the implementation of company visions and strategies in operative measures (Kaplan & Norton, 1998). As part of the analysis phase, only the formulation of objectives is discussed here. Further strategies and concrete measures are part of the following consultation phases. Therefore, the tool provides consultants with a comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures. (Lippold, 2013)



The formulation of clear goals defines the starting point of the problem-solving process. With the help of the Balanced Scorecard, objectives can be quantitatively evaluated, systematized and then successively broken down into measures. Thus, the Balanced Scorecard provides a model for the development of objective systems. (Lippold, 2013)

In order to make objectives measurable, they should meet certain requirements, which are anchored in the so-called SMART principle. SMART is an acronym for "Specific Measurable Accepted Realistic Timely". (Lippold, 2013)

Traditionally, companies used only financial performance as measure of success. The Balanced Scorecard added additional non-financial strategic measures to look at the company holistically. (Kaplan & Norton, 1998) The Balanced Scorecard considers the objective formulation of four dimensions: (Kaplan & Norton, 1998)

- Financial: addresses organizational financial performance and financial resources
- Customer: views the performance from the customer's and stakeholders' point of view including the customer value, satisfaction or retention.
- Internal process: measures the key business processes, workflows, service or product quality and other services visible to the customer.
- Innovation and learning address the performance through human resources, technology, culture and other aspects of growth and business development.

### **5.3.7 Customer needs analysis**

The customer needs analysis has the purpose to ensure methods for the identification of goals, wishes, requirements as well as problems of customers. (Reineke & Bock, 2007)

As part of the e-service, topics are identified to the above areas, which has not been presented in any of the previous consulting tools. The customer needs analysis can be customized for each company. It is specifically aimed at the individual services offered by the consulting firm, the advertising or PR agency. As part of the customer analytic e-service, the focus is increasingly on the development of strategies and implementation of measures in online communication. These include various online communication channels that have already been presented. The modules from customer needs analysis also refer to online channels.

In the course of this, the expectations and desired goals are to be determined. A better positioning in online channels can be achieved through communication goals such as increasing the awareness and reach through communication measures and channels, exploring new audiences, promoting customer engagement, generating leads, promoting sales, building a specific image, or achieving opinion leadership in business-critical areas and channels.

In addition, strategies, communication measures and other activities that have already been carried out are queried in order to identify the need for action. This should be a record of the efforts done in the past by the customer. The consultant then has the opportunity to analyse the already existing channels in the further consulting process and to derive possible improvement measures.

#### **5.4 Segmentation of consulting tool outcomes**

The previous formulation of consulting tools is now used to work out individual core areas, objectives of the tools and the expected output in the form of logic segments. In doing so, elements of the qualitative content analysis of Mayring were used as a procedure. The consulting tools were systematically analysed in the literature as already explained. From this, modules, or also called, category systems, can be developed within the next step. (Mayring & Brunner, 2007)

Table 4 shows key elements and determinants worked out from the consulting tool templates. On the basis of the template, logic segments are classified and assigned. It has to be noted that some consulting tools overlap in content and expected outcomes. In the next sub-chapter, duplicates are removed, and the content of the consulting tools is grouped as part of the creation of the query complex.

Consulting tool	Key elements / determinants	Logic segments
<b>SWOT analysis</b>	<p>Strengths</p> <p>Weaknesses</p> <p>Opportunities</p> <p>Threats</p>	<p>Unique Selling Proposition (USP)</p> <p>Core competencies and resources (human, intellectual, physical, digital, financial)</p> <p>Company culture</p> <p>Company processes and workflow</p> <p>Value Proposition of products and services</p> <p>Market position</p> <p>Market and business sector trends and changes</p> <p>Growth potential</p> <p>Government regulations and support</p> <p>Competition and competitive advantage</p> <p>Company perception (image) and reputation</p> <p>(based on Hill &amp; Westbrook, 1997; Kotler, Keller, Brady, Goodman, &amp; Hansen, 2016; Lippold, 2013; Wesselmann &amp; Hohn, 2012)</p>
<b>Portfolio analysis</b>	<p>Market analysis (Market growth, relative market share)</p> <p>Service and product strategies</p>	<p>Market growth and profitability</p> <p>Market share</p> <p>Relative competitive position</p> <p>Competitive advantage</p> <p>Product and Service lifecycle</p> <p>Pricing and price level</p> <p>Investment and business development strategies</p> <p>Service and product positioning</p> <p>Product and service decisions</p> <p>(based on Bamberger &amp; Wrona, 2012; Lippold, 2013; Wind &amp; Mahajan, 1981)</p>

<b>Business Modell Canvas</b>	<p>Customer Segments</p> <p>Value Proposition</p> <p>Channels</p> <p>Customer Relationships</p> <p>Revenue Streams</p> <p>Key Resources</p> <p>Key Activities</p> <p>Key Partners</p> <p>Cost Structure</p>	<p>Target groups</p> <p>Market Segmentation</p> <p>USP</p> <p>Communication channels</p> <p>Customer Touchpoints</p> <p>Distribution channels</p> <p>Customer Relationship Management</p> <p>Marketing measures</p> <p>Revenue model</p> <p>Core competencies and key resources</p> <p>Core processes analysis</p> <p>Stakeholder and supplier analysis</p> <p>(based on Kotler, Keller, Brady, Goodman, &amp; Hansen, 2016; Lippold, 2013; Meffert, Burmann, &amp; Kirchgeorg, 2015; Osterwalder, Pigneur, &amp; Clark, 2010; Osterwalder, Alexander, 2004)</p>
<b>Five-Forces-Model</b>	<p>Competitive rivalry</p> <p>Buyer power</p> <p>Supplier power</p> <p>Substitution</p> <p>New market entrants</p>	<p>Product differentiation</p> <p>Price transparency</p> <p>Competition and competitive advantage</p> <p>Stakeholder</p> <p>Market barriers</p> <p>Substitute product</p> <p>Core competencies and USP</p> <p>Distribution channels</p> <p>Automatization and disintermediation</p> <p>Customer loyalty</p> <p>(based on Kotler, Keller, Brady, Goodman, &amp; Hansen, 2016; Lippold, 2013; Meffert, Burmann, &amp; Kirchgeorg, 2015)</p>

<p style="text-align: center;"><b>Benchmark analysis</b></p>	<p>Competitors' strengths and weaknesses</p>	<p>Competitive position                  Market share and market position                  Image and brand positioning                  Brand awareness                  Customer satisfaction                  Customer loyalty                  Price-performance ratio                  Distribution channels                  Communication and marketing measures                  Service performance and product analysis                  (based on Lippold, 2013; Meffert, Burmann, &amp; Kirchgeorg, 2015)</p>
<p style="text-align: center;"><b>Balanced Scorecard</b></p>	<p>Key-Performance-Indicators                  Strategy Map                  Corporate dimension (financial, customer, internal processes, innovation and learning)</p>	<p>Shareholder expectations                  Financial resources                  Customer satisfaction                  Customer value                  Customer expectations                  Key business processes                  Service and product quality                  Workforce empowering                  Strategy map                  Key-Performance-Indicators                  (based on Kaplan &amp; Norton, 1998; Lippold, 2013; Mulpuru &amp; Gill, 2015)</p>
<p style="text-align: center;"><b>Customer needs analysis</b></p>	<p>Requirements Engineering                  Situation analysis</p>	<p>Communication channel analysis                  Communication measures analysis                  Customer's expectations and objectives                  (based on Reineke &amp; Bock, 2007)</p>

Table 4: Modularization of consulting tools

## 5.5 E-Service query complex's construction

With the help of the analysis of the consulting tools, logic segments were identified. In the next step, the query complex of the e-service is to be worked out. Primarily, the individual logic segments are used to purposefully formulate questions. This approach is supported by a core question analysis. The procedure is explained in more detail below. In addition, the logic of the query complex in terms of questions, logic jumps and other conditions is examined.

### 5.5.1 Core question analysis

The logic segments identified from the consulting tools will now be needed in order to implement the logic of the e-service on the basis of principle of the core question analysis invented by the consulting firm McKinsey. In this way, the hierarchical structure of the e-service query complex resulting from the consulting tools can be made. Individual questions can be mapped depending on the response behaviour of the potential customers attending to the e-service application. (Lippold, 2013)

The core question analysis defines a starting question. From there, further questions are created step by step (Lippold, 2013). The query complex of the E-service also operates on the same principle. The initial question is "which consulting services and consulting approaches does the potential customer need?" The individual modules are based on the starting point. In the deductive core question analysis, detailed sub segments (logic segments) can be broken down from level to level. As already mentioned, consulting tools that refer to the same or similar logic segments are grouped together. Finally, individual questions can be formulated, and the logic of the e-service can be worked out in detail.

### 5.5.2 Modularization and service logic

As in the first appendix, the e-service query complex, the **customers'** module is the entry point, in which general questions about the target group and customer relationships can be found. These are suitable as introductory questions, since they should be relatively easy to answer from the point of view of the participant. Building on this, objectives and existing target systems are analysed in the **customer's objectives and requirements module** in order to identify a possible need for consulting services and approaches right from the start. The **Value Proposition** module asks questions about the USP, product and service differentiation, and the strengths of the company. The next module, where **core competencies and key resources** are queried, builds on the knowledge of the

previous module. Within this module the company's key resources are to be discovered, which can be used purposefully in communication measures and the strategic orientation.

In the following modules, the company environment will be analysed. Within the **market and business sector** the participant is asked about the market position, market share, business changing trends and market forces. Competitive advantages and a benchmark to the strongest competitors is made within the **competition** module.

To complete the analysis of the business environment, the company's **stakeholders** are identified. Now questions can be asked about the determined market and competitors on product and service level. The self-perceived **service and product** performance and quality, substitutes and the revenue model are of great interest. The last two modules form the core of the communication consulting. Brand awareness and image are queried in the **brand positioning** module. Finally, participants are asked questions about existing marketing and **communication measures**. The aim is to clarify to what extent marketing activities exist, how they are carried out, which channels are used and whether communication measures are measured by their success.

The already pre-established logic segments can now be matched to the response behaviour of the potential customer. The questions created from the logic segments are created using a query logic. The order of the logic segments and questions is based on the determined query logic. In addition, logic jumps are integrated, which leads the potential customer on the basis of his answers to selected follow-up questions. For example, from the logic segment "target groups" various questions are asked about the demographic, psychographic, socio-demographic and behavioural demarcation of the target group. The displayed questions are asked on the answers given above. If, for example, business customers (B2B) are specified, questions are asked other than when specifying private customers (B2C). The results are logic jumps that will be presented within the implementation of the e-service application in the next chapter using a decision tree. The order of questions is also composed of its particular logic. Primarily, basic questions are identified, which create a dependence on further questions.

### **5.5.1 Question types**

The literature provides guidance on how to conduct a requirements and needs analysis with the customer. Questioning techniques include open and closed questions.

The customer analytic e-service is designed for a single evaluation of the individual customer case by the consultant. Therefore, deliberately open questions are asked, which should increase the information content. A quantitative analysis of the results with descriptive statistics does not represent a requirement to the query complex. The following question types are used in the E-Service query complex:

#### **Multiple and single choice questions**

This type of closed question is applied when using a ready-made answer set. (Raab-Steiner & Benesch, 2012) From a consultant perspective, it can be used to answer questions where structured answers are required. Since the answer options are set, the consultant receives predictable answers in advance. Both multiple choice questions and single choice questions are used depending on the application. For example, preferred answers may be selected from its default list.

#### **Open-ended questions**

From the answers of open questions, opinions or detailed findings are drawn. (Lippold, 2013). It also allows respondents to define central issues, and addresses the “why”. (Baur & Blasius, 2014) From the consultant perspective, mainly open questions are used in order to be able to raise the customer problem in detail. Self-perception is also part of the query. The consultant gets a first assessment of the self-image, understanding of the topic and a first assessment of the consulting strategy.

#### **Likert-type scales**

Rating scales are used to questions to agree or disagree to the expression based on a score. It is used if more precise answers needed than yes/no (Preston & Colman, 2000) The advantage is that that rating scales give the consultant an insight into what matters to the potential customers (respondent). Each answer has an individual value. Therefore, it can be determined what factors are important to the potential customer.



## **Dichotomous questions**

Dichotomous questions are used to ask for yes/no or agree/disagree answers. Subsequently, there are only two possible answers. (Baur & Blasius, 2014; Raab-Steiner & Benesch, 2012) From the perspective of consultants, a kind of checklist can be created using the question type. Dichotomous questions are used in e-service, for example, to query existing communication measures and objectives.

### **5.5.2 Query complex**

The final developing step of the e-service complex defines the formulation of individual questions. These are identified as described from the consulting tools extracted logic segments.

In the question-and-answer procedure, the user-centric design of the e-service is also taken into account. Usability aspects are prioritized. The representation on common digital devices, such as smartphones, tablets, laptops and desktop devices, the precise formulation of the questions and the easy understanding of the questions should be ensured.

A potential field of tension between the optimal informative content of the answers and the number and duration of the answers to the questions represents another challenge. The addressees are mainly marketing directors, business owners and executive directors. This is to ensure that the participating persons have enough knowledge about their own company to be able to answer the questions. Attention is paid to a maximum of 10 modules that can be answered within 20-25 minutes.

The first appendix of this thesis shows the formulation of the individual questions of the e-service, based on the identified logic segments.

## **5.6 Chapter summary and outlook**

The key question in this chapter has been which consulting tools can be identified to perform an analysis of the customer in the information phase of the consulting process. The outcome of the chapter represents the development of a query complex that can be obtained from the individual consulting tools.

As a basis, known consulting tools from the literature were presented. This has been done with the principles of qualitative content analysis by Mayring where key elements and determinants are worked out from the consulting tool templates. In turn, it was possible to identify logic segments that were aggregated in the next step to the individual query modules of the e-service application. Finally, the derived insights and results of each tool were used to generate specific questions for the e-service. The resulting query complex will be used in the practical implementation of the e-service.

The presented consulting tools have the purpose for the initial analysis of the customer. In the further consulting stages, the consulting firm will usually undertake an analysis of the potential customer, its competitors and market conditions, in order to combine the customer's approach with the perspective of the consultant. Based on the responses of the potential customer, it can be determined quite early in the consulting process, which self-assessment of the performance and perception of his business and industry the (potential) customer has. In addition, it can be ascertained what expectations he has of the consulting services and what goals he is really pursuing.

## 6 E-SERVICE APPLICATION DEVELOPMENT

The development of the customer analytics e-service represents a central point of this thesis. Previous findings from the individual chapters are now used to develop the e-service as a web application. This chapter acts as documentation of the development steps of the e-service web application. The e-service architecture presents the structure and the technical implementation of the e-service application. A service blueprint shows the visualization of the service components and interaction points with the participants of the e-service. The individual modules of the application are explained with code extracts and finally the steps for publishing the e-service are explained.

### 6.1 E-service architecture

The architecture of the e-service is presented using a 3-tier architecture. The 3-tier architecture is used in client-server applications. It modularizes the user interface, business logic and data storage layers. (Hirschfeld, 1996) To be noted, in software development, there are far more flexible architectural patterns, such as a microservices architecture (Raj, Raman, & Subramanian, 2017). Indeed, the following underlying layer model should show the rough structure of the e-service.

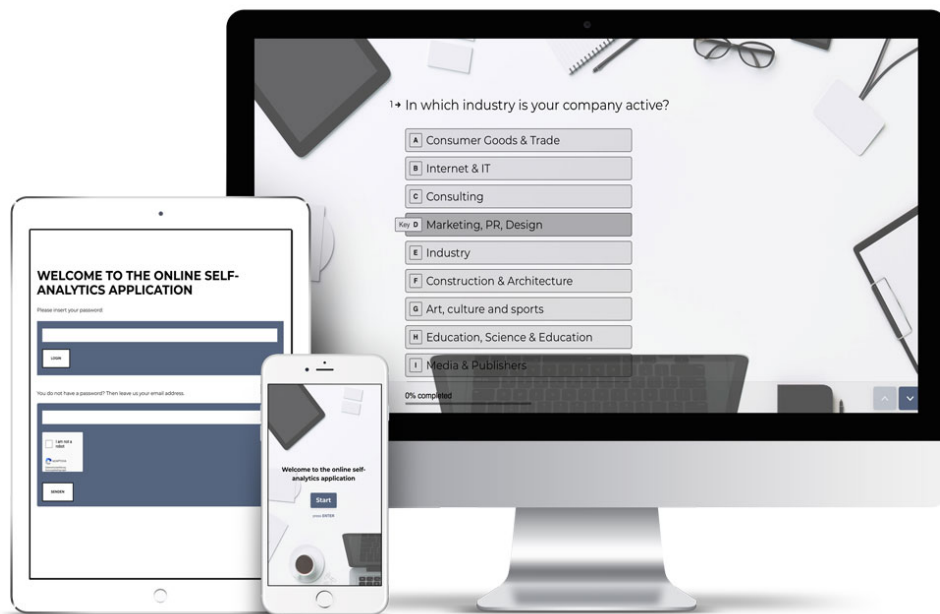
For the e-service application the infrastructure and the backend of the provider Typeform S.L. are used. The data is hosted on an AWS service by Amazon. The encryption is done via Transport Layer Security (TLS). The technology stack includes technologies like AngularJS, PHP, Docker, Ruby and more. ('Security at Typeform - Developer Documentation', 2018) The detailed structure of the technologies and development components provided by Typeform S.L. are not part of this thesis. Thus, the rough description of the e-service within this thesis can be presented on the basis of the established 3-tier-architecture, without taking into account state of the art design paradigms.

As part of this Master's thesis, adaptations in the front-end of the application are made on the existing technology stack. As a business logic, the query complex and logic jumps that respond to the response behavior of the participant are developed. At the data level, the database is provided by the Typeform S.L. infrastructure. The data can be exported in

various formats, such as XML or CSV, in order to be able to export the results of participation in the e-service to, for example, CRM systems.

The **presentation tier** is the front-end layer of the web application. The graphical user interface (GUI) is accessible through a web browser and renders the content and information of the e-service. (Raj et al., 2017). The presentation layer is built on technologies such as Java-Script, HTML5 and CSS.

As part of this thesis, the front-end was designed and adapted to the optimal presentation on different digital devices. As shown in figure 15, the e-service can be run as a web application on desktop computers, laptops, tablets and smartphones. The GUI was created directly in the web backend of the provider Typeform S.L. The graphical interface of the e-service was developed using the Markup Languages HTML5 and CSS as well as the object-oriented programming language JavaScript.



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Figure 15: E-service front end application

The **logic tier** contains the business logic of the e-service (Raj et al., 2017). It includes technologies and script languages like Hypertext Preprocessor (PHP) and other programming languages. The core of the logic defines the query complex of the e-service. The individual questions are created with a logic map to jump the participant on the basis of his individual response to different questions. The result is a logic tree map. Figure 16 shows exemplary logic jumps of the first module "customers" in a decision tree. Appendix 2 contains the logic tree maps of all modules.

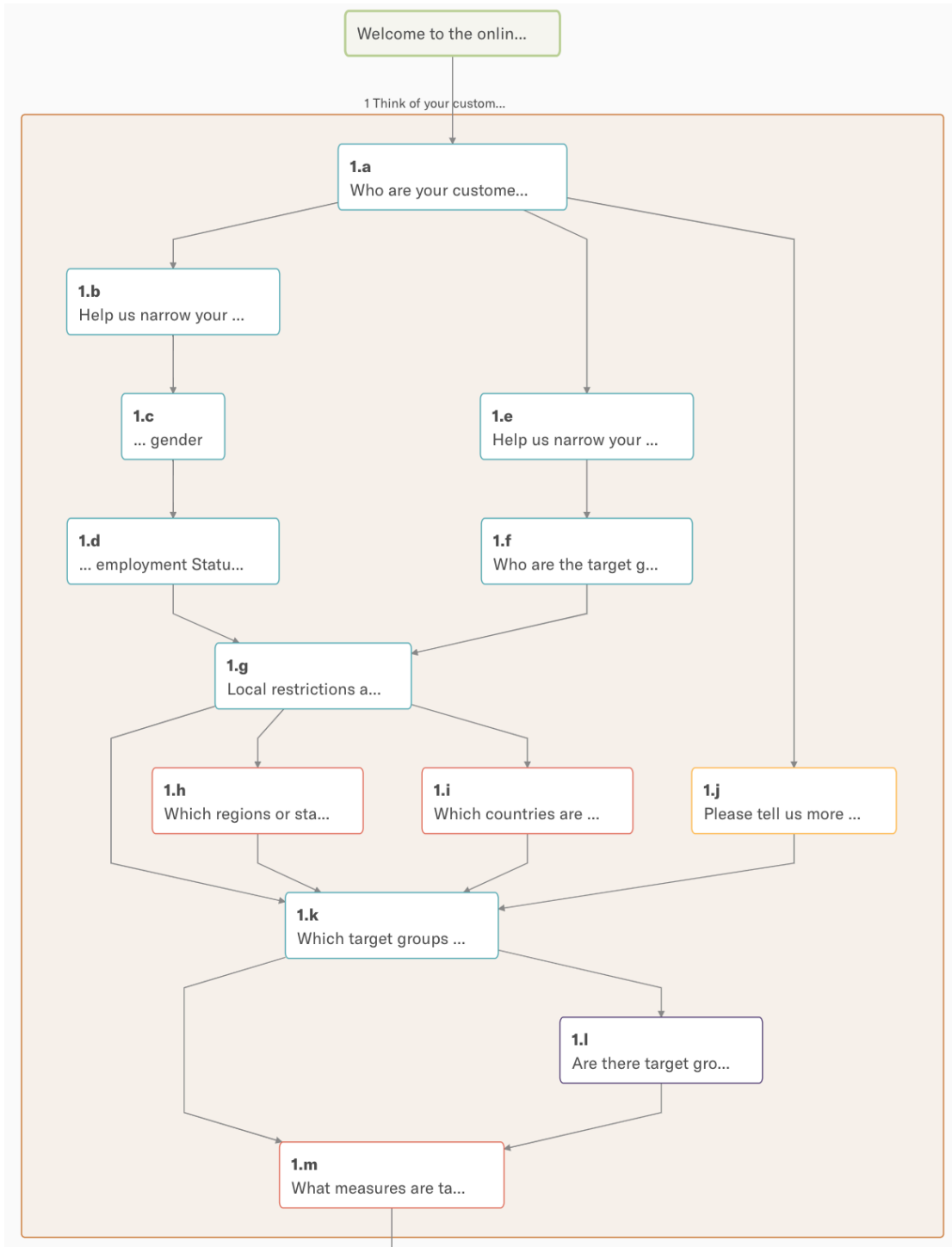


Figure 16: E-service logic tree map

The **data tier** consists of the database and data access layer (Hirschfeld, 1996). Technologies like MySQL are used for the data storage system. The data of the e-service are accessed by the application layer via API calls.

## 6.2 E-Service blueprint

The service blueprint visualizes the processes and relationships between different components of a service (Lynn Shostack, 1982). The interaction between potential customers is represented within the customer journey of the service blueprint (Hoong, 2013). Service blueprints involve multiple touchpoints and channels used to deliver a service. From the point of view of the potential customer, all touchpoints between the consulting firm and the potential customer are mapped. They describe the line of visibility within the service blueprint. (Esch, Kochann, & Schneider, 2016).

With the support of blueprinting, the individual processes of the e-service can be visualized. The basis is the technical architecture described in the previous chapter and individual touchpoints are analysed. The main questions answered within the service blueprint are whether there are people involved and where the service is delivered. (Lynn Shostack, 1982).

Further key elements are customer actions, onstage and backstage contact actions and support processes. Customer actions are activities and steps that a customer performs while interacting with the e-service application. The onstage actions occur on the line of visibility of the customer. (Hoong, 2013) As part of the e-service, these are activities displayed by the application, such as the display of the password input or the display of the individual questions of the e-service. Backstage actions occur are invisible for the customer. For example, they support the onstage actions by validating user inputs or respondent messages. Support processes are internal steps that support all above processes. Within the e-service application these are mainly technical specifications and functions of the e-service. For example, the application checks if the user is already logged in or if a password input is required.

The customer journey can vary in scope. For the same service, it is possible to visualize multiple blueprints in different scenarios that it can be accommodate. Basically, two scenarios are differentiated in the use of the customer analytic e-service.

### **Customer triggered service scenario**

Within the customer triggered scenario showed in figure 17, the potential customer's attention is drawn to the e-service through search or recommendations. This service scenario is to be assigned to the acquisition and information phase from the point of view of the customer buying process (Greff et al., 2017).

The visit of the consultant's firm website defines the starting point of the customer journey. After the potential customer has become aware of the e-service application, he is forwarded to the password-protected area of the e-service. In the background it is checked, whether the potential customer is already logged in. Otherwise, the credentials must be requested. The user has the possibility to request them via e-mail. Their contact inputs are validated in a backstage and sent the credentials are sent by mail. With this process, the valid e-mail address of the customer is checked. With the input of the correct credentials, the e-service application can be launched. Upon successful completion of the query complex, the results will be sent to the responsible consultant. The results are stored in the database and reports can be created. Finally, the potential customer will be informed about the next steps. A detailed description of the individual stages can be found in figure 17.

### **Consultant triggered service scenario**

The consultant triggered scenario describes the case when there was already a personal initial contact with the potential customer. For example, the participation in the customer analytic e-service was agreed in an initial meeting in order to build up consulting measures. This service scenario is to be assigned to the customer relationship building from the consultant's point of view and assigned to the decision phase from the customer's point of view. (Greff et al., 2017)

As shown in figure 18, the potential customer is provided with an access URL and credentials for accessing the application as the starting point of the customer journey. This gets the potential customer to the e-service application, where the credentials have to be entered. The following stages within the customer journey are identical to those of the customer triggered scenario.

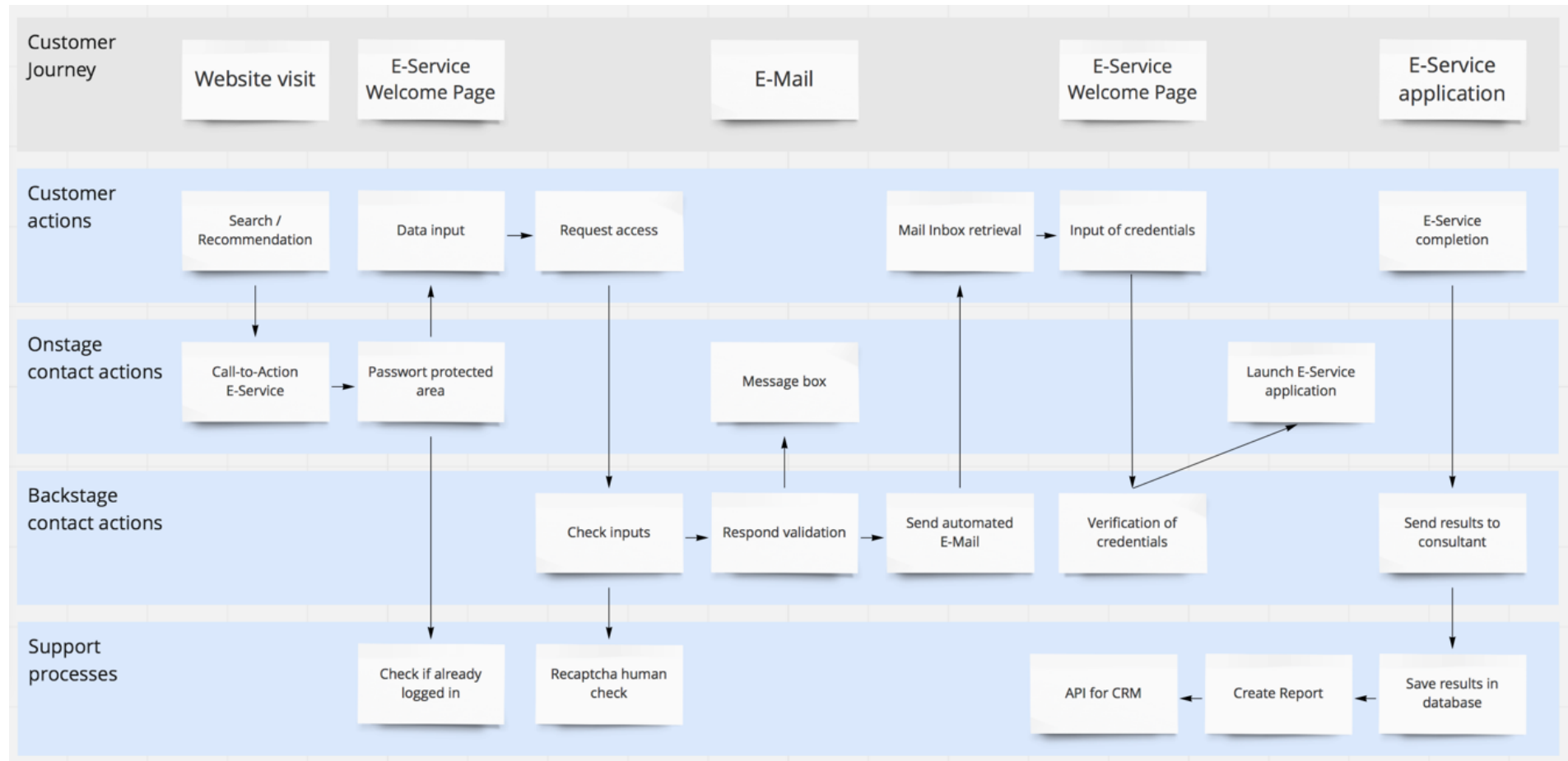


Figure 17: Service Blueprint customer triggered scenario



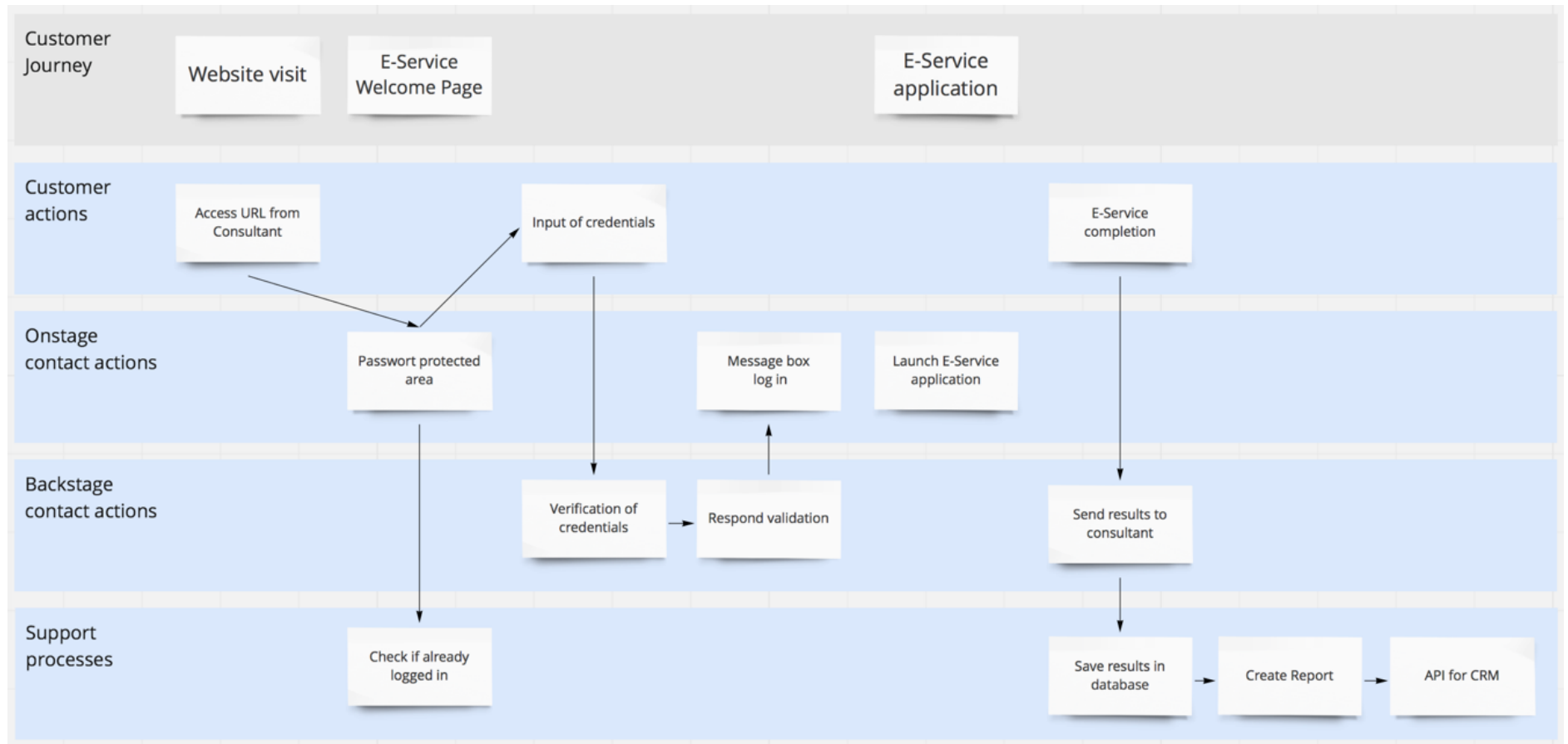


Figure 18: Service Blueprint consultant triggered scenario

## 6.3 E-service modules

Based on the e-service architecture, individual modules can be worked out. A module of the e-service represents an independent functionality of the e-service application. The individual modules are presented below. Based on rough insights into the technical implementation of the modules, the structure of the e-service should be explained from a technical point of view. Complete code files are available digitally in the enclosed disc of this Master's thesis. In addition, it should be noted that Typeform provides an open platform for extensions and API. Possible extensions for developers are in Typeform's developer portal.<sup>2</sup>

### 6.3.1 Presentation module

The presentation module displays the structure of the web application as an HTML file. Listing 1 shows an excerpt of the index.html file of the application which is initially loaded by starting the e-service application. The document structure of an HTML file includes the head where metadata is written. Style elements are used to make CSS declarations. The body contains the content of the e-service application. JavaScript functions are developed in the script area.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Online customer analytics application</title>
  <meta charset="utf-8" />
  <meta property="og:url"
content="https://consultingapplication.typeform.com/to/xWn35m" />
  <meta property="og:title" content="Online customer analytics
application" />
  <meta property="og:type" content="website" />
  <!-- [...] -->

  <style>
    html,
    body,
    #root,
    #root-spinner {
      height: 100%;
      width: 100%;
      overflow: hidden;
      margin: 0;
      padding: 0;
    } /* [...] */
  </style>
</head>
<body>
```

---

<sup>2</sup> Typeform's developer portal <https://developer.typeform.com>

```
<div id="root"></div>
<!-- [...] -->

<script>
  window.render.renderer({
    domNode: window.document.querySelector('#root'),
    form: { "id": "xWn35m", "title": "online customer
analytics application", "theme": { "id": "rlg9NZ",
"font": "Montserrat", "name": "consulting application",
"colors": { "question": "#000000", "answer": "#000000",
"background": "#d4d2d6" },
/* [...] */ }
  });
</script>
</body>
</html>
```

Listing 1: HTML document structure

### 6.3.2 Login module

As seen in the service blueprint of the e-service, the e-service is provided with password protection. Like the entire application, the login data will be encrypted. The implementation of the e-service application under an SSL-encrypted domain via `https://` is required. For data input, an external plugin is also used. The external plugin Contact Form 7 allow to make contact forms compliant with the data protection standards (GDPR 2018).<sup>3</sup> As shown in listing 2, the login logic is implemented in PHP. The password protection page asks for credentials to launch the e-service. If no credentials are given, the user has the possibility to apply for a password.

```
<?php
function password_protected_change ($content) {
  global $post;
  $output = '<div class="col-xs-12 col-md-6"
style="margin-top:10%; margin-bottom:5%;">

  <h4 class="briefing-heading" style="font-size:45px;
color: #000000; margin-
bottom:30px;">Welcome to the online self-analytics
application</h4>

  <p>Please enter your password</p>

  <div style="background: #55647e; padding-left:20px;
padding-right:30px; padding-top:25px;
padding-bottom: 25px; margin-top:25px;">

  <form action="" .get_option( 'siteurl' ) . '
/wp-login.php?action=postpass" method="post">
  <div class="aq-block-aq_contact_block">
  <p>
```

---

<sup>3</sup> Contact Form 7 plugin data protection <https://contactform7.com/2018/04/16/how-to-make-privacy-friendly-contact-forms/#more-26352>

```

        <span class="wpcf7-form-control-wrap">
          <input name="post_password" class="input"
            type="password" style="width:100%; height: 40px;
            margin-bottom:25px;" /></span>
        </p>
      </div>
      <div class="aq-block-aq_contact_block">
        <input type="submit" name="Submit" class="button
          wpcf7-form-control wpcf7-submit" value="Login" />
      </div>
    </form></div></div>';

    $output.= '<div class="col-xs-12 col-md-6">

    $output.='<p style="padding-bottom:20px;">You do not have a
    password? Then leave us your email address</p>';
    $output.='[contact-form-7 id="663"]</div>
    [email* email]
    [recaptcha size:compact]
    [submit]';
    return $output; }
add_filter( 'the_password_form', 'password_protected_change' );

```

*Listing 2: Password protected login module*

### 6.3.3 Logic module

The logic module contains the query complex of the e-service. As mentioned above, logic jumps are used to respond to the individual response behavior of the participant.

Logic jumps are developed by JavaScript Object Notation (JSON). With the open-standard file format JSON, data objects are transmitted used for asynchronous browser-server communication.

Listing 3 shows an example of a logic jump in JSON format. In question 1a "Who are your customers" is queried by means of multiple choice which target group the participant has.

```

{ "logic": [
  { "type":"field",
    "ref":"[1a]_block",
    "actions": [
      { "action":"jump",
        "details": {
          "to": {
            "type":"field",
            "value":"[1e]_question"
          }
        }
      },
      { "condition": {
        "op": "is",
        "vars": [
          { "type":"field",
            "value":"[1a]_question"
          },
          { "type":"choice",
            "value": "[1a]_answer_b2b",
          }
        ]
      }
    ]
  }
]
}

```

*Listing 3: Logic jumps in JSON*

The field "ref" indicates the relevant question block. The "actions" section refers to the jump target, question 1e. The "condition" section defines the individual conditions that must be met for the logic jump. With Boolean operators or if conditions, in this case "is", the following condition is implemented. If the question from the multiple-choice field is answered with "Business customers (B2B)", then the question 1e will be forwarded. The complete logic jumps will be attached digitally in the form of the attached disk. Further documentation on the development of logic jumps can be found in the developer documentation.<sup>4</sup>

### 6.3.4 Interface module

The interface module has the function of providing the e-service application domain-independent accessible. The interface can be configured differently. For example, the application can be integrated into an existing website as an HTML frame. As described in listing 4, the e-service can be embedded as a full screen popup on a URL of a domain. The JS function launches the embedded E-service.

```
<a class="typeform-share button"
  href="https://consultingapplication.typeform.com/to/xWn35m"
  data-mode="popup"
  data-auto-open=true data-hide-headers=true data-hide-footer=true
  data-submit-close-
  delay="10" target="_blank">
</a>
<script>
(function () {
  var qs, js, q, s,
  d = document,
  gi = d.getElementById,
  ce = d.createElement,
  gt = d.getElementsByTagName,
  id = "typef_orm_share", b = "https://embed.typeform.com/";
  if (!gi.call(d, id)) {
    js = ce.call(d, "script");
    js.id = id;
    js.src = b + "embed.js";
    q = gt.call(d, "script")[0];
    q.parentNode.insertBefore(js, q) } })()
```

---

*Listing 4: E-service interface embedding*

---

<sup>4</sup> Developer documentation <https://developer.typeform.com/create/logic-jumps/>

### **6.3.5 Notification module**

The notification module sends an automatic message to the consultant by e-mail after successfully answering the questions of the e-service. Within this notification there is a link to the detailed report of participation. The consultant will also be notified when a potential customer requests access to the e-service application. In addition, a reply can be sent directly to the e-mail address left by the participant. The e-service is also configurable sending a response e-mail to the participant. Within this notification it can be thanked for the participation and the next steps can be clarified.

### **6.3.6 Report module**

The report module has the function to prepare the results of the e-service application for consultants. In individual evaluations, the responses of a participant can be displayed as a report. These can also be exported in XML or CSV format to integrate the results in advanced tools or a CRM system. The answers of the participant should be analysed in the next step by the responsible consultants. Based on the results, consulting approaches can be developed in the next step.

## **6.4 Pre-testing and release**

Before the e-service application is published, it is subjected to a pre-test. The quality of the e-service should be subjected to a first test. ('Guide - Developing assessment tools', 2015) Above all, the logic of the application is tested. The e-service is filled with test data and various logic jumps are tested. Further quality checks will also be implemented. The usability and representability on all digital devices are part of the tests. A countercheck on the requirements and characteristics of an e-service from the previous chapters of this thesis is also carried out. Finally, the results that the e-service delivers are put to the test. After successful testing, the e-service will be made public online via a domain. A deeper evaluation with experts is part of the next chapter.

## **6.5 Chapter summary and outcome**

This chapter describes the development process of the e-service application. The technical structure of the application is considered. The chapter acts as documentation of the development steps of the e-service web application.

The presented e-service architecture shows the structure and the technical details of the e-service application. As part of this thesis, the front-end is designed and adapted to the optimal presentation on different digital devices. The graphical user interface is accessible through a web browser and renders the content and information of the e-service. The presentation layer is built on technologies such as JavaScript, HTML5 and CSS. The business logic includes the query complex and logic jumps that respond to the response behavior of the participant are developed.

The service blueprint visualizes the service components and interaction points with the participants of the e-service. Finally, based on the e-service architecture and service blueprint, individual modules are split up. A module of the e-service represents an independent functionality of the e-service application.

## 7 E-SERVICE EVALUATION

The research question of this thesis forms the starting point for the evaluation of the e-service application. Based on the research question, objectives of the evaluation can be identified. The hypotheses from the existing literature are examined with the help of qualitative research. In the course of this, expert interviews are conducted to assess the usefulness and applicability of the e-service application. The evaluation of the individual interviews is based on the criteria of qualitative content analysis according to Mayring. Based on the results, the hypotheses can be reviewed and the usefulness of the e-service as well as limitations of the utility of the service can be worked out.

### 7.1 Evaluation objective

The evaluation serves to answer the research question and to review the associated research hypotheses. The previous chapters have helped to answer the research question. Chapters 4 and 5 in particular have dealt with the following research question:

Which consulting procedures, methods and e-service requirements can be identified as key success factors to provide a beneficial e-service assisting in the customer consulting process?

Building on this, the e-service application was developed, and the associated methods and consulting tools integrated. In order to carry out an evaluation of the identified key success factors, research hypotheses were formed. The following hypotheses go one step further than the research questions and examine whether the delivered results of the e-service have an impact on consulting services:

The outcome of the consulting e-service has an influence for consultants on the consulting service for their customers<sup>5</sup>.

---

<sup>5</sup> Basis for the research hypothesis: Werth, D., Greff, T., & Scheer, A.-W. (2016). Consulting 4.0 – Die Digitalisierung der Unternehmensberatung. *HMD Praxis der Wirtschaftsinformatik*, 53(1), 55–70. <https://doi.org/10.1365/s40702-015-0198-1>.



H<sub>1</sub>: The outcome of the e-service has a supporting impact on the consulting service.

H<sub>0</sub>: The outcome of the e-service has no supporting impact on the consulting service.

The aim of the evaluation is therefore to determine a possible impact of the e-service in the consulting process, approach or procedure.

## **7.2 Research approach**

The present research design justifies the method choice of the evaluation. The procedure, the execution as well as the presentation of the results will be discussed.

### **7.2.1 Design method**

Since the presented problem to be solved by the evaluation has a novelty value, a qualitative survey was chosen as research methodology. The deductive approach allows to check the identified hypotheses from the literature. (Baur & Blasius, 2014) It is determined to what extent the results of the consulting e-service have an influence on the consulting services from the point of view of the consultants.

As part of the evaluation of the e-service, three expert interviews were conducted. The subjects were deliberately selected according to their expertise. More details about the selection of experts can be found in the next section.

The contents and questions of the interviews were taken from existing literature. It identifies scientific and relevant practical sources related to the use, usefulness, risks and other similar factors of e-services in the consulting industry. From the results of the sources, an interview guide has been created. In order to evaluate the practical suitability of the e-service as well as possible, the method Persona tries to put the participating experts into the lifeworld of the potential customers.

The interviews were conducted individually in order to rule out the mutual influence of the experts. The interviews were recorded by audio files., the results are analysed interpretatively using a qualitative content analysis. In the content analysis according to Mayring, a category system is created, according to which the evaluation of the interviews takes place (Mayring & Brunner, 2007). The core results will be presented and an evaluation provides a review of the usefulness, application possibilities and the potential of the e-service application from the consultant's point of view.

### **7.2.2 Experts selections**

In the qualitative study, three experts were selected. The following requirements were set for the selection process of the participants:

- Currently engaged in consulting
- Professional experience with minimum 5 years in consulting industry
- Participation in IT related consulting services
- Executive or freelance

The questions and procedure of the interview was basically the same for all participating experts. Depending on the field of specialization, the focus was additionally placed on the following areas:

- Strategy consulting and brand positioning
- Online communication and marketing
- Service and user experience design

Expert 1 is founder and managing director of a consulting agency. His responsibilities include strategy development and conceptual design of measures in the role of a PR and strategy consultant for companies.

Expert 2 manages a PR and communications agency. She is responsible for the development of communication content, strategies and service development within the consulting agency.

Expert 3 is a freelancer in the advertising and PR industry. She specializes in digital campaigning, social media and UX design.

Due to the specialist focus of the subjects, several roles and thus perspectives on the e-service can be covered.

### **7.2.3 Personas**

As part of the expert interviews, the e-service application has been executed on the basis of a presented Persona. As mentioned in earlier chapters, Personas are user models that characterize persons of a target group with their characteristics. An attempt is made to immerse oneself into the personal world and to identify his wishes and expectations regarding products and services. (Osterwalder et al., 2010) With the help of the Personas method, a fictional company is created. In addition, the company is given a face and

attributes in the form of a role. As a result, individual potential customers and participants in the e-service can be readjusted. (Pruitt & Grudin, 2003)

The contents of the description of the persona define the presentation of the initial situation, a description of the company as well as an explanation of the problem and requirements for consulting services. The result of the e-service participation of the Persona will be presented to the participating experts. From the results, the usefulness of the results, their informative value and the practical applicability of the obtained information will be assessed. The gained insights of the Persona from the answered questions of the e-service are finally compared with the Persona description.

As shown in figure 19, a local fitness center is simulated using the Persona description. The objectives and the problem statements are explained. In addition, a target group definition and the presentation of the service offer is given. Beyond, communication and marketing measures already implemented are presented. Based on the Persona description, it is possible to answer the questions of the e-service application in detail and then evaluate the results.

The persona answer to the e-service questions is in appendix 3. To be noted, the questions and answers showed in appendix 3, contain the corresponding logic jumps based on the selected responses of the Persona description.



Figure 19: Persona description

### **7.2.4 Analysis method**

The qualitative content analysis is the systematic processing of the collected data to answer the research question. (Ramsenthaler, 2013) There are several methods using a qualitative content analysis to evaluate interviews. With the help of the technique of structuring certain aspects or a certain structure are filtered out of the interviews. The goal of the structured content analysis is to integrate the data obtained under predetermined criteria. Within this approach, a coding guide is created. (Mayring & Brunner, 2007). The approach is most closely based on a deductive approach (Ramsenthaler, 2013). The categories are determined using existing literature. The following interview guide contains the identified categories, the content of the interview guideline and the derivation of the category system from corresponding scientific sources.

### **7.3 Interview guide**

As a form of survey, face-to-face interviews conducted with experts. In order to be able to respond to the answers of the experts and to be able to ask in-depth questions, a semi-structured interview is conducted. For this purpose, an interview guide was created. (Baur & Blasius, 2014)

As already mentioned, the questions of the interviews were identified from the findings of existing literature. Already conducted empirical surveys on e-services in the consulting industry were used. In addition, the findings from the previous chapters of this paper were used to formulate interview questions. In the course of this sources that have focused on the use, usefulness, risks and similar factors of e-services in the consulting industry were identified. Likewise, some questions were supported on the basis of the KANO model of services. The guideline is to determine which factors of the e-service application were to be identified as basic factors, performance and enthusiasm factors in order to appreciate the usefulness and applicability of the e-service. (Matzler & Hinterhuber, 1998)

Table 5 shows the individual categories of the interviews. The categories are assigned content in the next step. The result is a category system in which individual questions are assigned to the categories. (Bortz & Döring, 2006)

The detailed interview guide can be found in appendix 4. An exact assignment of the individual questions to the respective sources and studies was carried out.

Category	Content	Sources
<b>Benefits and applicability</b>	service flexibility cost advantages service pricing digitization expertise competitive advantage service efficiency	Nissen & Seifert, 2015 Schüle et al., 2016 Greff, Johann, & Werth, 2017 Peter, 2017
<b>Risks</b>	deterioration of the customer relationship lack of individualization of the service less perceived quality lower level of trust security threats	Keuper et al., 2018 Nissen & Seifert, 2015
<b>Potential</b>	online consulting service configurator adoption and penetration potential automation of consulting services Motivation factors	Christensen, Wang, & Bever, 2013 Keuper et al., 2018 Nissen, 2018
<b>Target group</b>	inhibitions of use customer segments acceptance criteria Integration in the consulting process	Keuper et al., 2018 Nissen & Seifert, 2015 Hofacker et al., 2007
<b>User experience</b>	simplicity of usage responsiveness of the application design and aesthetics navigation behaviour duration of participation	Nissen & Seifert, 2015 Meyer & Schwager, 2007
<b>Query logic and content</b>	SWOT analysis Portfolio analysis Business Modell Canvas Five Forces Model Benchmark Analyse Balanced Scorecard Customer needs analysis modular construction	Hill & Westbrook, 1997 Wind & Mahajan, 1981 Osterwalder, 2004 Kotler et. al, 2016 Lippold, 2013 Kaplan & Norton, 1998 Reineke & Bock, 2007 Seifert & Nissen, 2016
<b>Fields of application</b>	acquisition and distribution channel Expansion of the fields of application Independence of the channel	Greff et al., 2017 Lippold, 2013 Werth, Greff, & Scheer, 2016

<b>Outcome and results</b>	result usefulness outcome usage further processing of the outcome	Nissen, 2018 Christensen, Wang, & Bever, 2013 Seifert & Nissen, 2016
----------------------------	---	--

Table 5: Interview guide

## 7.4 Results and implications

The results of the interviews are presented on the basis of the classification of the category system below. The implications of the three interviews are summarized in the respective category.

### Benefits and applicability

All experts saw suggestive benefits in the use of the e-service in the consulting industry. The resulting *flexibility* in the service offering defines a success factor of the e-service. With tight order levels, there are often bottlenecks, so that consultants cannot be physically be present at the customer throughout the entire consulting process. Frequently, several initial discussions take place in order to determine the initial problem definition and job definition together with the customer. The problem is that potential customers frequently have little time in advance to deal with their own problems and objectives as well as their expectations of consulting companies. For this reason, personal face-to-face talks can often only be completed with low output. The e-service should be able to act here above all with a higher *efficiency*. The customer should be informed that very detailed and specific questions about the competition, own objectives, customer segments and other areas are queried. According to this, the customer has to deal with the topic in advance in order to be able to provide answers to the questions of the e-service application. As a result, the consultant receives the previously requested information and can already take subsequent consulting measures.

With the gained efficiency *time savings* can be achieved in the consulting service. A higher level of *responsiveness and working speed* in the internal processes of the service delivery is expected. *Cost savings* can be achieved through automation of service processes.

The experts considered it to be a big advantage in the *digitization competence* that would be perceived by potential customers.

The experts did not see any significant *competitive advantage* arising from the use of e-service. The e-service could be used as an *additional sales channel* and should support and supplement the consulting services.

*New customer segments* could be accessed through location and time independence. However, this step carries risks, which are explained in the past category risks.

## **Risks**

The estimation of possible risks was partly based on given scenarios. In addition, the experts also identified risks that were discussed within the interviews.

The risk that has been placed at the centre of the discussion is a possible *deterioration of the customer relationship*. The digitalization of the customer analytics phase could arise weaker client-consultant relationship due to the lack of face-to-face contact. According to experts, this risk could not be confirmed. However, the e-service should by no means replace personal contact in its entirety. An initial personal first contact is recommended in order to establish a basis of trust. It should also be communicated that personal contact would continue in the further consulting phases. If there is no personal initial contact with the potential customer, the data is transferred to unknown persons from the customer's perspective. In order to strengthen confidence, the initial personal contact would again be recommended. In addition, the privacy policy should clarify how data security can be guaranteed.

*Data security* represents another risk factor. The experts mentioned on the one hand a lack of anonymity for new customers as barriers to participation, as data could be given publicly or passed on to third parties. On the other hand, the application must be secured against data breaches and data traffic must be encrypted. Data security guidelines must also be communicated to the participating customers so that the inhibition threshold for participation decreases.

In addition, e-service could be perceived as *insufficient individualized*. Consulting services are not standardized products and require a high degree of individualization. For this reason, a modular and flexible structure of the application must be possible in order to respond individually to customers. More about this issue can be found in the category query logic and content. The experts saw Less perceived quality in the consulting service only in the case of a lack of communication of the benefits of e-service participation and in case of a lack of initial contact with the potential customer.

Another challenge the consultants perceived was in the *response behaviour* of the participating customers. Answering questions could give different results in a verbal and

written query. For sensitive questions such as objectives, potential customers often spend a long time to talk about it in practice. Often, no clear measurable objectives and milestones can be defined. The challenge now would be to write objectives in a concise way. This risk is referred to in the category outcomes and results.

Another risk experts mentioned was the *lack of credibility* that could be perceived in potential. Consultants sometimes struggle with the image of baiting new customers with promises. The e-service could be perceived at first glance as a mere acquisition tool and would have a negative impact on the image of the consulting firm. For this reason, anonymized participation without first contact is disregarded. Access to the e-service should be provided only to selected potential customers where the acquisition process has already been initiated.

### **Potential**

The potential of the e-service was discussed at the level of the consulting industry. The possibility of expanding digital consulting services was assessed differently by the experts. An extension to a *consulting web shop* or *online consulting service configurator*, where consulting services can be acquired, represents a vague future scenario. The experts saw this possibility in a very limited niche. For example, partial services which can be handled according to a predefined budget and tasks could be part of this web shop. Online marketing measures, such as the booking of display advertisements or social media ads, could be part of it.

The *automation* of further consulting processes would be difficult due to the high degree of customization. From the perspective of the consulting process, however, it would be conceivable to set up a *digital feedback channel*. Customers could provide feedback to consultants after consulting and implementation. This evaluation is to be incorporated into the controlling of the consulting house.

The *enforcement potential* of the e-service was evaluated differentially by the experts. The consensus was that the e-service tends to be used in smaller consulting firms. The order volume of consultancy projects usually increases with the size of the consulting firm. Large consulting contracts are usually commissioned by larger companies. In practice, these usually require the permanent physical presence of consultants.

The experts also saw great potential in expanding the e-service with *artificial intelligence*. With the help of big data, the evaluations of the participants should be processed largely automatically. Consulting approaches should be developed by artificial intelligence and consultants act as a controlling body.



## **Target group**

The acceptance criteria of the participation of potential customers was another important decisive aspect for the use of the e-service. Possible *inhibitions for participation* could be identified at the company level as well as person-related.

*Company-related acceptance criteria* concern the industry and company size of the potential customer. The experts believed that the acceptance for participation in digital self-analysis decreases beyond a certain size of the company. In the consulting industry, it is common for consultants to meet with larger customers at the customer's site. Larger companies thus expect the consultant to be physically present. Likewise, a distinction of the industry can be made. Conservative classified sectors such as banks, doctors, lawyers and similar should therefore not be part of the target group of e-service. IT near industries and companies of the new economy would represent the main target group of e-service.

At the *personal level*, the experts also distinguished acceptance criteria using the e-service. Within the interviews, no exact limitation was made, but a tendency derived. Younger people are would therefore be more willing to participate in the e-service application. A more detailed restriction of acceptance characteristics can be obtained in a follow-up study.

The limited *target group* thus defines small and medium sized enterprises (SMEs). Smaller companies often have little budget for consulting services. According to experts, initially high fees in the early consulting phases deter smaller companies. Often there is no conclusion of a contract, as a fee from the initial meetings or workshops is made, although no measurable results from the customer's point of view is included in consulting services.

## **User experience**

The user experience represents a key requirement and key success factor for the e-service application. The *simplicity of usage* from the customer's perspective must be ensured. The experts saw a high *usability* as the basis factor of the service. An *appealing design* was considered as an enthusiasm factor. Particular emphasis was placed on the fast response time of the e-service application and the implemented smooth scrolling effects as navigation elements, which were classified as dynamic and easy to use. The optimal representation of the application content was also cited as an added benefit. Since answering the questions requires a lot of typing, participation in e-service on larger screens was recommended.

The questions asked within the application were perceived as *complex* by the experts. It would be recommended to inform the participants in advance about the requested content. This would also ensure that the potential customer can prepare for participation and give high-quality answers to the questions asked.

The question type in the form of *open questions* was perceived as positive. This forces the participant to study the topic in depth. Only with answers that can be used from the consultant's perspective a first meeting or workshops could be replaced with the e-service. Also, the duration of participation was considered positive. The potential customers should be informed that very detailed queries are necessary to be able to provide good consulting approaches.

It was also noted that the *introductory sentences* of the individual modules should be highlighted better. This should signal the participant in which module he currently is. It was also noted by one expert that only few customers are able to answer the question about the product lifecycle. The modular design would allow to decide on a customer-by-client basis whether this question was added to the query complex. The other proposed improvements to the e-service were incorporated.

### **Query logic and content**

The selection of *consulting tools* was confirmed during the expert interviews. Various consulting tools are already used in practice by the consultants. Some consulting tools differ in the depth of application depending on the case of consulting. For example, competitive strategies for brand positioning rely on a detailed competitor analysis with benchmarks. In practice, some consulting tools are applied in a slightly modified way.

The *query complex* was perceived as consistent and conclusive. According to the experts, the contents were extracted appropriately and in detail from the consulting tools.

The *modular structure* of the queries was considered as a key factor. The modules should be individually selectable depending on the participant. The consultant should decide in advance which questions would be asked. This approach in turn confirms the discovery that the e-service should be offered only after initial contact with the potential customer. In this stage, the first tendencies and the rough problem of the customer should already be known. Based on this, the consultant can unlock flexible individual modules of the e-service.

### **Fields of application**

The e-service is used as a *supporting sales channel*, which also optimizes internal consulting processes. It is positioned as a support tool in the development of consulting services.

The experts confirmed the findings from the literature. Consulting firms, especially PR agencies, are currently not extensively digitized internally. Outwardly, however, they consult their customers on the *digital transformation of services* and the use of digital communication channels. The need for more digitized services in the consulting industry was seen by all experts. The basic principle is that no basic rules of communication with the customer may be broken.

The *modular structure* of the query complex would enable a broad field of application in the consulting industry. It would also be conceivable to use the e-service for *invitations of tenders* that were made by potential customers. In practice, tenders tend to be made through consulting projects where several consulting firms are invited to pitch. The e-service could be used in advance to simulate a briefing conversation. This allows the tendering party to obtain important information in advance.

According to experts, another application scenario was the *motivation of potential customers to participate*. Since people are willing to disclose data about themselves in the digital age and on social media, the experts expected a high willingness to participate from the customer's perspective. The potential customer has the opportunity to flexibly and quickly find out about the needs he or she has regarding consulting services, and which topics would have to be addressed in the consultation.

During the expert interviews, the two possible application scenarios presented in chapter 6.2 on the basis of service blueprints were discussed. Due to the risks already described, it is recommended to use the e-service only after initial contact between the consultant and the potential customer. The e-service should therefore not be used as a stand-alone acquisition channel. Moreover, by participating anonymously, the individualization of the modules could not be ensured. For these reasons, the e-service should be perceived as a support of personal consulting services.

According to experts, it cannot be generalized in which consulting firms the e-service would be beneficial. The authenticity of the service offer should be reflected. The e-service must be authentic to the outside world. A consulting firm that is perceived as digital by the target group can use the e-service in a targeted manner and achieve high credibility. According to experts, the use of e-service would also strengthen the perceived *digitization competence* of the consulting firm.

## Outcome and results

The usefulness of the results of the e-service is largely dependent on the *quality of the answers* provided by the participants.

The experts noted a decisive advantage of the digital customer analytics in the *response behaviour* of the potential customers. In verbal conversations, consultants often encounter the effect of *social desirability*. In the initial talks, potential customers tell what others would like to hear. Above all, a *hidden agenda* is barely communicated. Clarity about the actual problems of the potential customer is often revealed only in the follow-up talks. The distorted response could also occur over digital channels. However, the experts saw a diminished effect.

The results of the e-service would represent the *first approaches* for the consultants regarding the need for consulting services. On the basis of the results, initial consulting approaches could be obtained. The response of the potential customer plays an important role. The *self-perception of the potential customer* about the positioning of the own company, its objectives, the competitive situation and other factors can be determined with the help of the e-service very early in the consulting process. Based on the results of the e-service, a self-search of the consultants about the potential customer is made. The result is compared to the answers of the potential customer. From a consultant's point of view, this could be used to identify a possible misjudgement and self-perception of the potential customer turning it into consulting approaches.

Limiting the applicability of the e-service to a special range of services was denied by the experts. Due to the modular structure, *individual query areas* can be specifically enabled for service categories. A high suitability of e-service is attributed to consulting services in the field of *strategic consulting, consulting in digital communication and PR services*. The use of the e-service for sensitive services is seen as critical. Crisis PR requires a basis of trust that is established through personal contact and close circle. According to experts, it was highly unlikely that a crisis would be revealed through online channels.

## 7.5 Delimitation and limitations

Finally, the results of the expert interviews can be used to restrict the usage scenarios and the usefulness of the e-service. As mentioned before, the experts recognized the usefulness of the e-service application in the consulting industry. Based on the findings of the expert interviews, the alternative hypothesis H1 can be proved in a limited way. In addition, the assumptions in the existing literature have been largely confirmed. Factors such as increased efficiency and flexibility in the consulting process point to the usefulness of the e-service application from the consultant's perspective. Also, a great potential in the use of e-service can be seen in the consulting process.

The results of the expert interviews allow to make a statement about the research question asked. For consultants, the e-service have a positive influence on the consulting service for their customers. The e-service can be used as a supporting sales channel, which also optimizes internal consulting processes. It can be positioned as a support tool in the development of consulting services.

Nevertheless, restrictions on the practical use of the e-service must be defined. As mentioned before, the digitalization of the customer analytics phase could arise weaker client-consultant relationship due to the lack of face-to-face contact. An initial personal contact between the consultant and the potential customer would be recommended in order to establish a basis of trust. In this case, it must be communicated to the potential customers that the personal contact should not be replaced and nevertheless a high degree of individualization in the consulting services would be maintained.

Therefore, the e-service should not be used as a stand-alone acquisition channel. An anonymized participation without first contact would not be recommended. Access to the e-service would be provided only to selected potential customers, where the acquisition process has already been initiated.

A high suitability of e-service can be attributed to consulting services in the field of strategic consulting, consulting in digital communication and PR services. The use of the e-service for sensitive services has to be seen critically. For example, crisis PR services require a basis of trust that can only be established in personal contact and close circle.

The e-service should mainly be used in smaller consulting firms. The order volume of consultancy projects usually increases with the size of the consulting firm. Large consulting contracts are usually commissioned by larger companies. In practice, these usually require the permanent physical presence of consultants.

According to the experts, SMEs can be defined as the main target group of potential customers. Smaller companies often have little budget for consulting services. According to experts, initially high fees in the early consulting phases deter smaller companies. Often there is no conclusion of a contract, as a fee from the initial meetings or workshops is made, although no measurable results from the customer's point of view is included in consulting services.

An exact separation and suitability for special industries cannot be made. Nevertheless, IT near industries and companies of the new economy could be defined as the main target group of e-service. Whether the e-service is made available to the potential customer must be decided individually by the consultant. According to the experts, younger people would be more willing to participate in the e-service application.

Finally, the question of how to integrate the e-service into the consulting process arises. The results of the e-service application represent the first approaches for the consultants regarding the need for consulting services of their potential customer. On the basis of the results, initial consulting approaches can be obtained. As a result, the internal consulting processes can be optimized. The e-service can be considered as a supporting tool in the development of consulting services and approaches based on the gathered knowledge about the potential customer.

For these reasons, the e-service should be perceived as a support of personal consulting services. Due to the high degree of individualization of consulting services, a further reduction of the personal customer relationship in this context should be avoided.

## **7.6 Chapter summary and outcome**

The evaluation of the e-service has been conducted to examine to which extent the results of the consulting e-service have an impact on the consulting services from the point of view of the consultants.

In the course of this, expert interviews have been conducted to assess the usefulness and applicability of the e-service application. The evaluation of the individual interviews has been based on the criteria of qualitative content analysis according to Mayring. Based on the results, the hypotheses of this thesis have been reviewed and the usefulness of the e-service as well as limitations of the utility of the service have been worked out.

The experts confirmed the usefulness of the e-service application in the consulting industry. In addition, the assumptions in the existing literature have been largely confirmed. To be noted, the usefulness of the results of the e-service mainly depend on the quality of the answers provided by the participants.

## 8 SUMMARY AND CRITICAL REFLECTION

The aim of this thesis was to develop an applicable and beneficial e-service for consulting agencies. The thesis used the approach of a systematic service engineering process. With this methodical and systematic approach, a systematic planning, development, implementation and evaluation of the e-service application can be ensured.

The following research question was placed at the center of the thesis: *Which consulting procedures, methods and e-service requirements can be identified as key success factors to provide a beneficial e-service assisting in the customer consulting process?*

In the theoretical part, a literature review was conducted on the subject of consulting 4.0 and e-service engineering publications. Based on the results of the theoretical part, the need for digital consulting services was identified. In comparison to other industries, the maturity of service digitization in consulting is relatively low. Human capital defines the main asset in most of the consulting services. Consultants often get hired to solve specialized problems making it hard to standardize and digitize the consulting itself. Therefore, the Master's thesis does not aim to prove that face-to-face consulting is no longer needed, but rather offers a practicable approach to broaden consulting services via digital channels. The full automation of the consulting industry defined therefore a non-target.

Followed a methodical approach in the development of the e-service, consulting methods and tools were presented to create an e-service development framework which was used in the practical part. It focused on consulting approaches, processes and methods that are used in the context of customer analysis and requirements engineering of consultants in the area of communication strategies. The query complex contained all questions that are posed to the potential customer within the participation to the e-service application. Established consulting tools like SWOT-Analysis, Portfolio Analysis, Business Modell Canvas and other methods used in practice and science were considered to implement the customer's self-directed e-service application.

The practical part of the Master's thesis consisted of the development of the customer analytics e-service as an online application. Previous findings from the individual chapters were used to develop the e-service as a web application. The technical structure and



architecture of the e-service was explained within the technical implementation part of this thesis.

Furthermore, research hypotheses extracted from the existing literature were examined with the help of qualitative research to answer the research question. In the course of this, expert interviews were conducted to assess the usefulness and applicability of the e-service application. The evaluation served to answer the research question and reviewed the associated research hypotheses.

The experts confirmed the usefulness of the e-service application in the consulting industry. In addition, the assumptions in the existing literature have been largely confirmed. Factors such as increased efficiency and flexibility in the consulting process point to the usefulness of the e-service application from the consultant's perspective. Additionally, a great potential to use an e-service in the consulting process within the consulting industry was found. Accordingly, the e-service has a supporting effect in the consulting process from the perspective of the consultants under given restrictions. It should be noted that the results do not apply to the entire industry without restrictions due to the small number of conducted interviews. However, the results of the existing literature also show the given tendencies. Further research can be done to evaluate the developed e-service with much more experts from different areas of the consulting industry.

Nevertheless, statements about the usefulness and applicability of the e-service can be made in a limited way. A demarcation of the fields of application of the e-service was made. The web-based customer analytic e-service addresses PR, advertising and communication agencies. The e-service tends to be most suitable in smaller consulting firms. A high suitability of e-service is attributed to consulting services in the field of strategic consulting, consulting in digital communication measures and PR services. The use of the e-service for sensitive services like crisis PR is seen as critical. SMEs were defined as the main target group of potential customers. An exact separation and suitability for special industries cannot be made. Nevertheless, IT near industries and companies of the new economy would be the main target group of e-service. According to the experts, younger people are more willing to participate in the e-service application. A more detailed restriction of acceptance characteristics could be obtained in a follow-up study.

When using the e-service, a personal first contact between the consultant and the potential customer is recommended in order to establish a basis of trust. In this case, the potential customers have to be informed that the personal contact should not be replaced and a high degree of individualization in the consulting services is maintained. Therefore, the e-service not be used as a stand-alone acquisition channel. An anonymized

participation without first contact can be disregarded. Access to the e-service would be provided only to selected potential customers, for which the acquisition process has already been initiated.

In addition, further research can be conducted by analysing further processes of the consulting process for possible digitization and standardization. The experts also mentioned great potential in expanding the e-service with artificial intelligence. With the help of big data, the evaluations of the participants should be processed largely automatically. Consulting approaches should be developed by artificial intelligence and consultants act as a controlling body. This area would require further research.

Summing up, the e-service can be used as a supporting tool for consultants, which also optimizes internal consulting processes. The results of the e-service application represent first approaches for the consultants regarding the need for consulting services of their potential customer. On the basis of the results, initial consulting approaches can be obtained. Due to the high degree of individualization of consulting services, a further reduction of the personal customer relationship in this context should be avoided. Knowledge driven services, like many consulting services, should be subjected to a feasibility test when transforming into e-services. However, whether the e-service is used in a consulting agency or not, must be decided company-specific. Consulting agencies have to clarify individually whether the e-service matches the business model, goals and the value proposition.

## E-service query complex – 1. Appendix

Modules	Logic segments (grouped)	Query complex
Customers	<ul style="list-style-type: none"> <li>a) Target groups</li> <li>b) Market Segmentation</li> <li>c) Customer relationships</li> <li>d) Customer loyalty</li> <li>e) Customer satisfaction</li> <li>f) Customer value</li> </ul>	<p><b>1)</b> Think of your customers and customer relationships to identify your company's target groups and customer's needs.</p> <p><b>1.a)</b> Who are your customers? (B2C, B2B, other):</p> <p><b>[logic jump] 1.b) – 1.i)</b> B2C - describe your target group in more detail (socio-demographic, psychographic, behavioural)</p> <p><b>[logic jump] 1.e) – 1.i)</b> B2B – describe your target group in more detail (business sector, addressees of communication measures, geographic)</p> <p><b>[logic jump] 1.j)</b> Others – Please tell us more about your target group</p> <p><b>1.k)</b> Which target groups does your company want to reach with communication activities? (customers, employees, stakeholders or others)</p> <p><b>[logic jump] 1.l)</b> More than one target group – Are there target groups your company prioritizes? Who are my most important customers your company wants to address in communication measures?</p> <p><b>1.m)</b> What measures are taken to set up, maintain and expand customer relationships? Is the customer structure predominantly made up of new customers or existing customers?</p>

<p><b>Customer's objectives and requirements</b></p>	<p>g) Customer's objectives and expectations h) Strategy map i) Key-Performance-Indicators</p>	<p><b>2)</b> <i>Think of your company's strategy and vision to identify your company's objectives and requirements for consulting services.</i></p> <p><b>2.a)</b> Does your company has clear and measurable Key-Performance-Indicators or objectives defined to achieve business goals?</p> <p><b>[logic jump] 2.b)</b> No - What are the reasons why no objectives have been defined so far?</p> <p><b>[logic jump] 2.c)</b> Yes - What measures and metrics do you have concerning your company's strategy, customer metrics such as customer satisfaction, empowering your workforce, internal process objectives associated with customer touchpoints or financial aspects?</p> <p><b>2.d)</b> What goals do you want to achieve with communication and marketing measures? (increase awareness and reach, exploring new target groups, increase customer engagement, generate leads, sales promotion, image building, perceived opinion leadership in business-critical areas and channels or other objectives)</p> <p><b>2.e)</b> Which concrete objectives does your company want to achieve through consulting services?</p>
<p><b>Value Proposition and USP</b></p>	<p>j) Unique Selling Proposition (USP) k) Service and Product differentiation l) Value Proposition of services and products</p>	<p><b>3)</b> <i>Try to put yourself into the role of your (potential) customers and answer the following questions concerning the Unique Selling Proposition (USP) and Value Proposition of your business model.</i></p> <p><b>3.a)</b> What core value is your company delivering to the customers? Which customer needs are the products and services satisfying?</p>

		<p><b>3.b)</b> What do people in your market see as your company’s strengths? What are the first considerations that come to mind, why customers come to you?</p> <p><b>3.c)</b> What is your Unique Selling Proposition (USP)? What do you do that your competition can’t? (think of resources such as human, financial, physical, digital resources, your company culture, market position, company reputation or the service or product value.</p> <p><b>3.d)</b> Do your customers have the chance to order the same products or indistinguishable services from competitors on the market?</p>
<p><b>Core competencies and key resources</b></p>	<p>m) Core competencies</p> <p>n) Key resources (human, intellectual, physical, digital, financial)</p> <p>o) Core business processes</p>	<p><b>4)</b> <i>Think of your core competencies, key resources such as the workforce and your company’s culture in terms of customer benefits.</i></p> <p><b>4.a)</b> Which key resources are needed to meet customer value proposition? (think of human resources, intellectual, physical, digital or financial resources)</p> <p><b>4.b)</b> What key activities are necessary to offer products and services? What activities and internal processes does the value proposition require?</p>
<p><b>Market and business sector</b></p>	<p>p) Market position and market share</p> <p>q) Market and business sector trends and changes</p> <p>r) Market growth and profitability</p> <p>s) Market barriers</p>	<p><b>5)</b> <i>Think of the market situation and changes in your business sector affecting your company.</i></p> <p><b>5.a)</b> In which industry is your company active?</p> <p><b>5.b)</b> What people in your market likely to see as your weaknesses? Could any of these weaknesses seriously threaten your business?</p> <p><b>5.c)</b> What plans do you have in place to improve your market position?</p>

	<p>t) Government regulations and support</p>	<p><b>5.d)</b> How do you see changes in technology in near future from your company’s perspective? (these can be helpful but also harmful changes)</p> <p><i><b>[logic jump] 5.e)</b> Technology &gt; 5 scale – In your opinion, what considerable technologies are changing in your industry?</i></p> <p><b>5.f)</b> How do you see changes in social patterns and purchasing behaviour in near future from your company’s perspective?</p> <p><i><b>[logic jump] 5.g)</b> Social patterns &gt; 5 scale – In your opinion, what considerable social patterns and buying habits are changing in your industry?</i></p> <p><b>5.h)</b> How do you see changes in government regulations or support in near future from your company’s perspective?</p> <p><i><b>[logic jump] 5.i)</b> Government regulations &gt; 5 scale – In your opinion, what considerable governmental regulations or support measures are changing in your industry?</i></p> <p><b>5.j)</b> How do you see changes in market trends in near future from your company’s perspective?</p> <p><i><b>[logic jump] 5.k)</b> Market trends &gt; 5 scale – In your opinion, what considerable market trends are changing in your industry?</i></p>
<p><b>Competition</b></p>	<p>u) Competitive advantages</p> <p>v) Relative competitive position</p>	<p><b>6)</b> Think of your strongest competitor and draw comparisons between your company and your competitor when answering the following questions.</p> <p><b>6.a)</b> Who are your main competitors that can have a large influence on your business?</p>

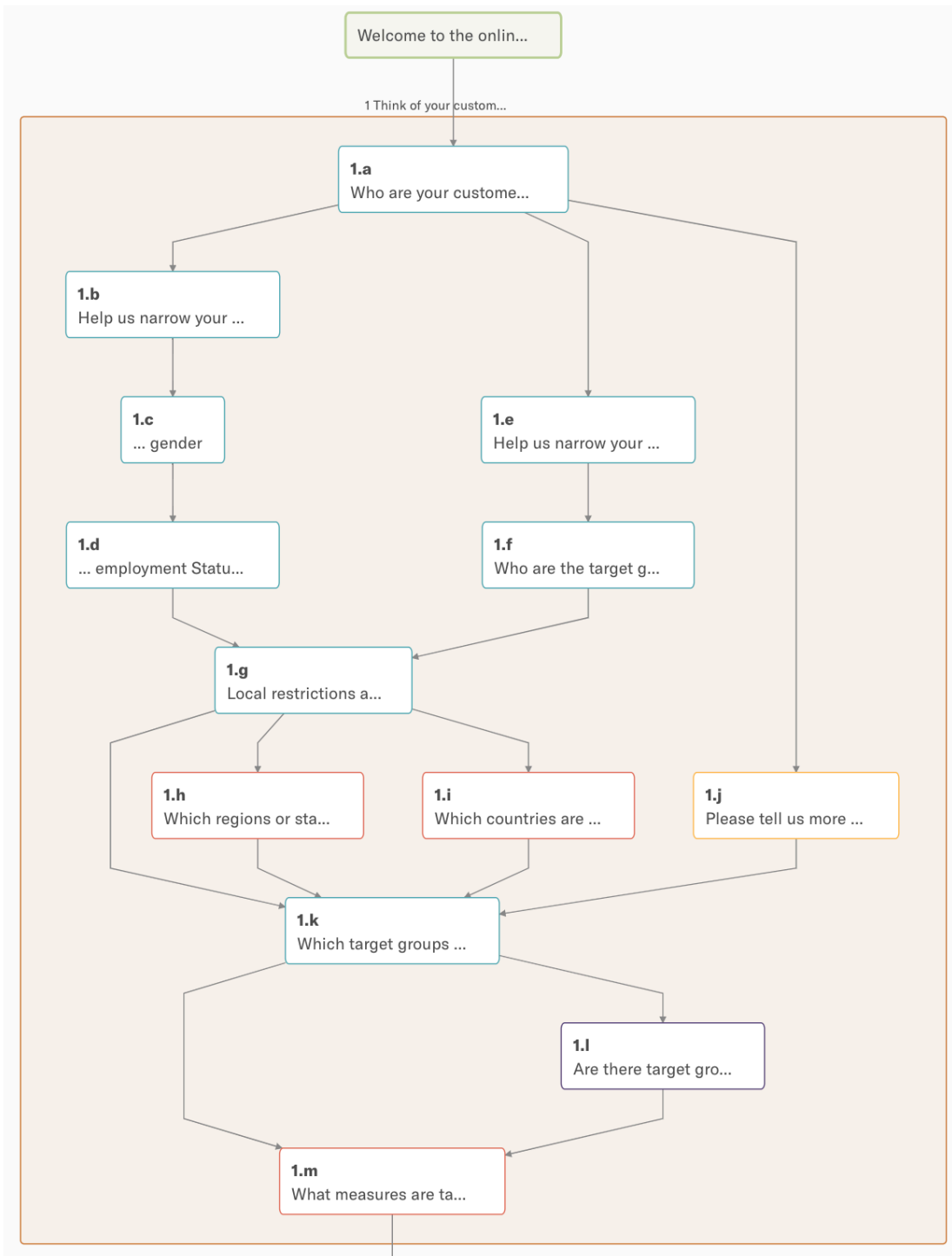
		<p><b>6.b)</b> Who are your strongest competitors in the context of service and product offer and communication measures? Where successful online or offline advertising campaigns are they running? (such as how your competitors encourage their customers to buy from them?)</p> <p><b>6.c)</b> What are your main competitors' strengths? What is something good about their service or product offer that you don't have in your offer?</p> <p><b>6.d)</b> What are the elements where your services or products are better than your competitors'?</p>
<p><b>Stakeholder and shareholder</b></p>	<p>w) Stakeholder</p> <p>x) Shareholder expectations</p> <p>y) Supplier analysis</p>	<p><b>7)</b> <i>Try to put yourself into the role of your company's stakeholders and shareholders and answer the following questions concerning their expectations, influencing factors and key partnerships.</i></p> <p><b>7.a)</b> Are there other suppliers in the market your company could order the inputs? How difficult is it for your company to switch to a different supplier?</p> <p><b>7.b)</b> Are there any employees or influencers who could have a positive influence on the communication activities (e.g. persons who may have opinion-forming effects on the company's reputation)?</p> <p><b>7.c)</b> Who are the key partners and key suppliers? In which key activities and resources does the company depend on partners?</p>

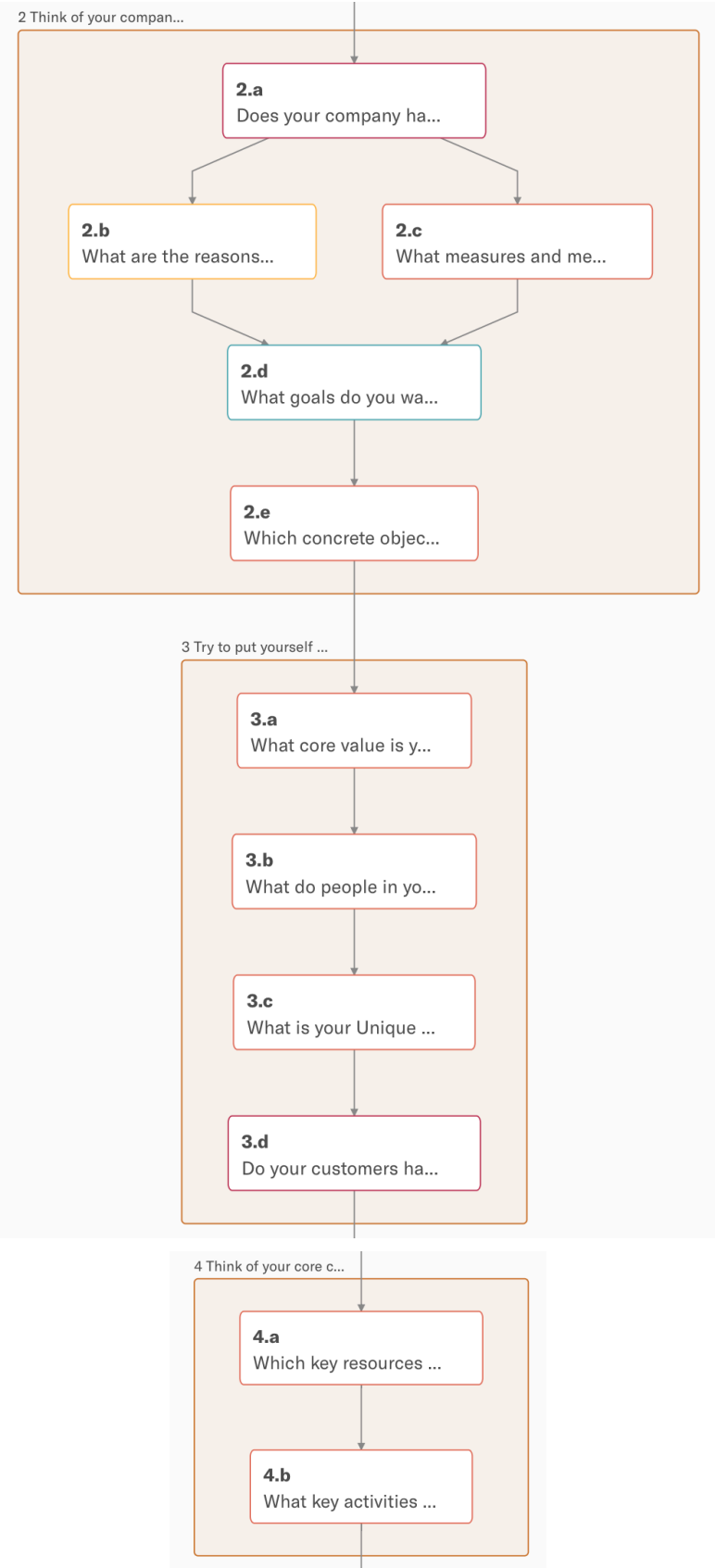
<p><b>Service and product aspects</b></p>	<p>z) Service performance            aa) Product and service lifecycle            bb) Service and product pricing            cc) Revenue model            dd) Price transparency            ee) Substitutes</p>	<p><b>8)</b> Think of you company’s service and product portfolio concerning price, product and service lifecycle and other related aspects.</p> <p><b>8.a)</b> Which main sources of income can be earned such as sale of services and products, advertising revenues, subscription fees or others?</p> <p><b>8.b)</b> To what extend is there a price transparency in your industry? Are the competitors’ prices for their products and services readily available to the customers?</p> <p><b>8.c)</b> How easy is it to find substitutes to your products or services? Are there similar products or services that could cause a decreasing demand for your products or services?</p> <p><b>8.d)</b> At what stage of the product lifecycle do you see most of your services or products in your industry in terms of customer demand? (introduction, growth, maturity, saturation, decline)</p> <p><b>[logic jump] 8.e)</b> Introduction OR growth - Are there any of your services or products that are experiencing significant growth in demand?</p> <p><b>[logic jump] 8.f)</b> Saturation OR decline - Are there any of your services or products that are experiencing significant decrease in demand?</p>
<p><b>Brand positioning and image</b></p>	<p>ff) Image            gg) Service and product positioning            hh) Brand awareness</p>	<p><b>9)</b> Think of you company’s brand image and positioning from your customer’s and market’s point of view.</p> <p><b>9.a)</b> How is your business positioned in the marketplace? What image is associated with your company?</p> <p><b>9.b)</b> How well is your own perceived reputation on the market?</p>

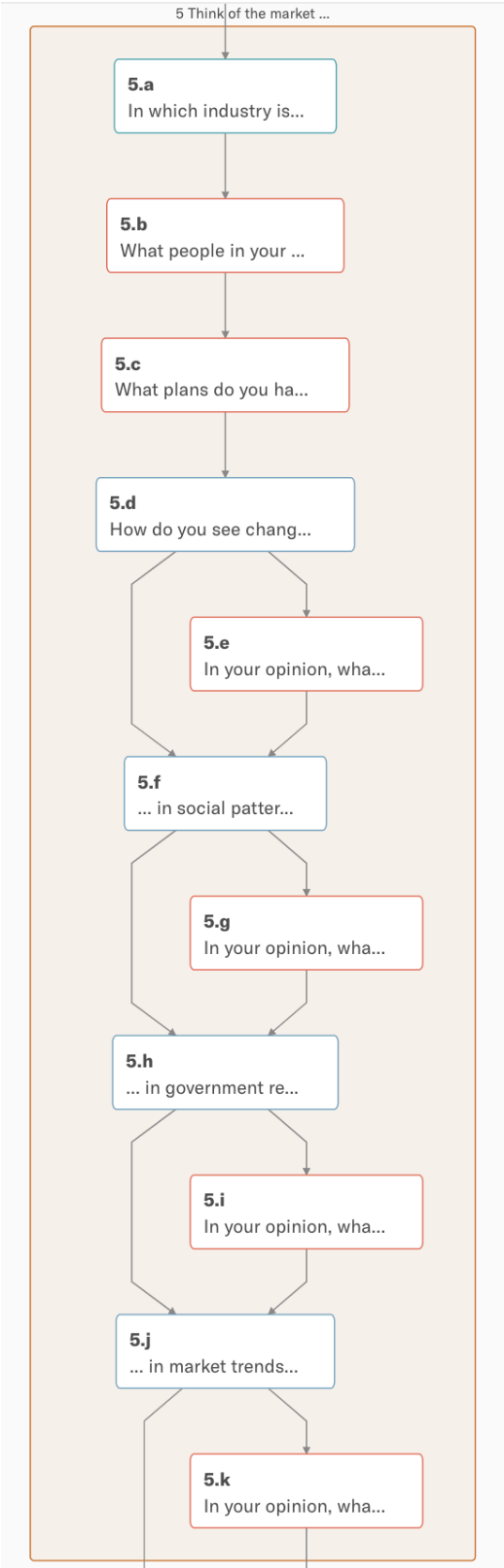


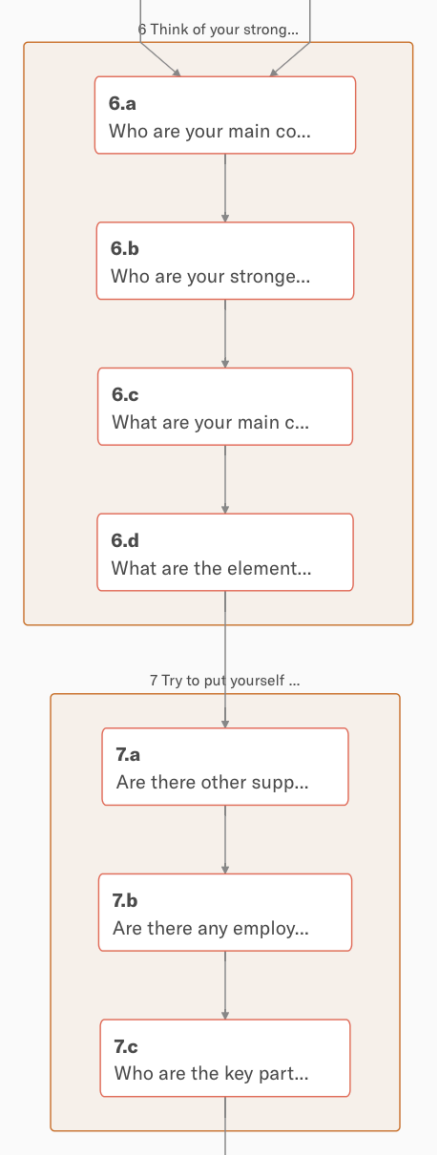
<p><b>Communication measures and channels</b></p>	<ul style="list-style-type: none"> <li>ii) Marketing metrics</li> <li>jj) Communication and marketing measures</li> <li>kk) Communication channels</li> <li>ll) Customer Touchpoints</li> <li>mm) Distribution channels</li> </ul>	<p><b>10)</b> Think of your company's communication measures and communication channels which your company addresses (potential) customers.</p> <p><b>10.a)</b> On which channels does your company communicate with (potential) customers? Which channels work best? What are the most successful touchpoints with (potential) customers?</p> <p><b>10.b)</b> Have online communication strategies and measures been implemented in the following channels in the past? (search engine marketing, social media, online PR, online marketing such as display advertising or newsletter marketing, online video broadcasting, measures on the corporate website, web shop or blogs)</p> <p><b>10.c)</b> How deep are your advertising budgets compared to your strongest competitors?</p> <p><b>10.d)</b> What could you improve in communication with your customers? Think of communication activities and all touchpoints with customers.</p> <p><b>10.e)</b> Tell us more about your marketing metrics: We take measured risks to enable innovation</p> <p><b>10.f)</b> We have clear and quantifiable goals for measuring the success of our digital strategy</p> <p><b>10.g)</b> We use customer insights gained through cross-touchpoint analytics to drive real-time optimization</p> <p><b>10.h)</b> We use a range of financial and nonfinancial metrics to understand the success of each touchpoint</p> <p><b>10.i)</b> We have a strategy for communicating with customers across multiple channels</p>
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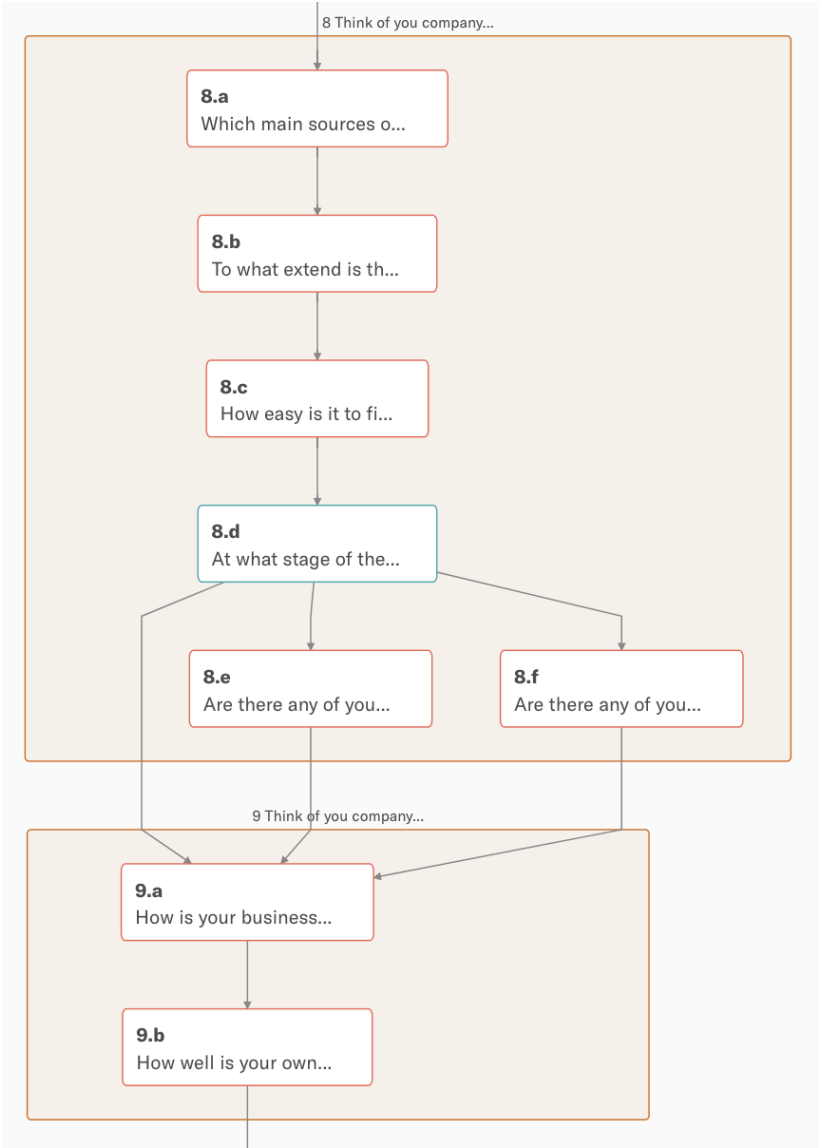
## Logic Jump Map – 2. Appendix

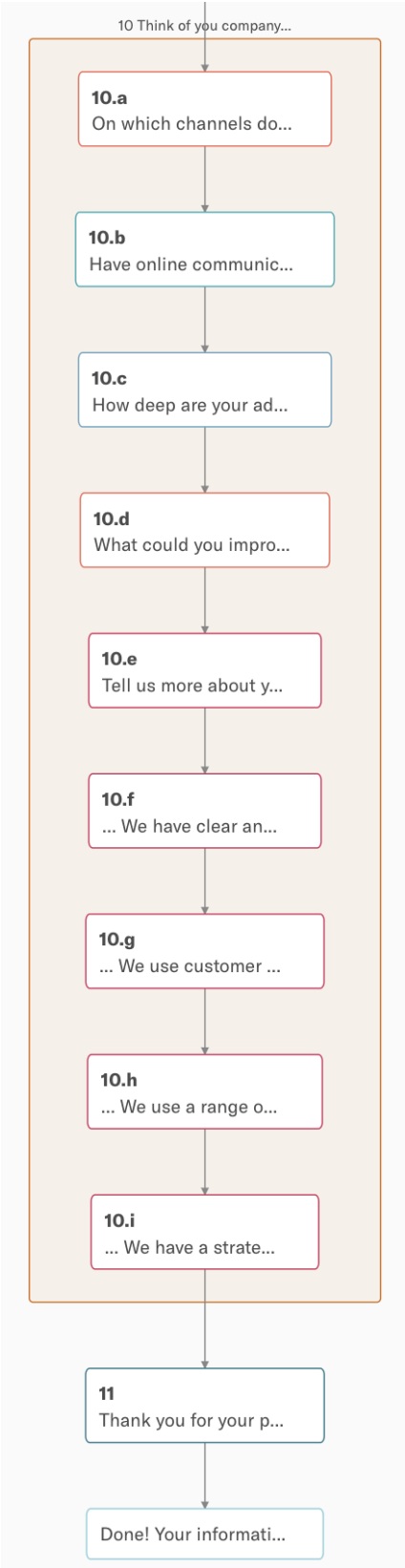




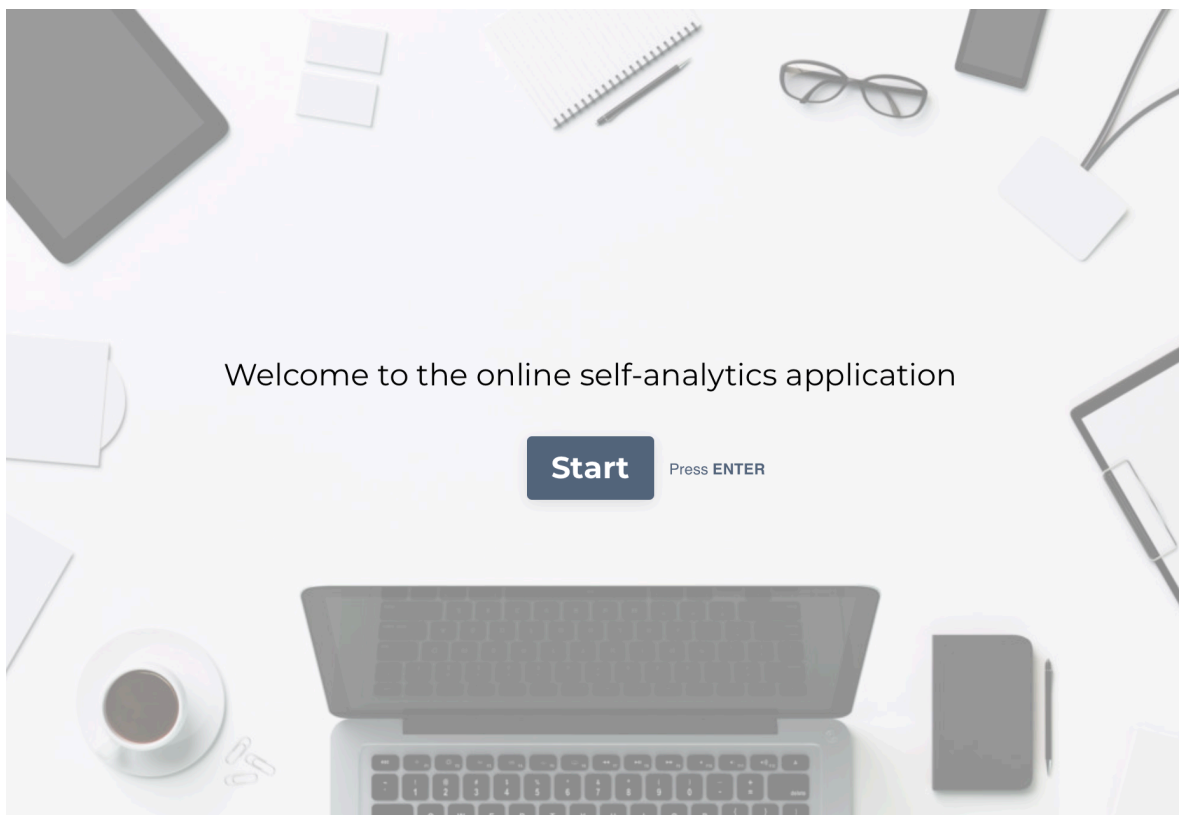








## E-Service Application Documentation – 3. Appendix



- 1 → ***Think of your customers and customer relationships to identify your company's target groups and customer's needs.***

**Continue** Press ENTER

- a. Who are your customers?

A Private customers (B2C)

B Business customers (B2B)

C Others



b. Help us narrow your target audience further ... What is the age of your target groups?

Choose as many as you like

**A** <15 years ✓

**B** 16 - 20 years ✓

**C** 21 - 30 years ✓

**D** 30 - 40 years ✓

**E** 40 - 50 years ✓

**F** 50 - 60 years ✓

**G** > 60 years ✓

**OK** ✓ Press **ENTER**

c. ... gender

**A** female

**B** male

**C** No specific gender is targeted ✓

d. ... employment Status: Is your target group currently...?

Choose as many as you like

**A** Employed for wages ✓

**B** Self-employed ✓

**C** Out of work ✓

**D** In education ✓

**E** Homemaker ✓

**F** Student ✓

**G** Retired ✓

**OK** ✓ Press **ENTER**

e. Local restrictions and regions of your target group

Choose as many as you like

A Specific regions or states ✓

B National / Nationwide

C International

D Other regions

**OK ✓** Press **ENTER**

f. Which regions or states is it?

Graz and Graz-Umgebung|

**SHIFT + ENTER** to make a line break

**OK ✓** Press **ENTER**

g. Which target groups does your company want to reach with communication activities?

Choose as many as you like

A (potential) employees

B (potential) customers ✓

C Stakeholders

D Others

**OK ✓** Press **ENTER**

- h. What measures are taken to set up, maintain and expand customer relationships? Is the customer structure predominantly made up of new customers or existing customers?

Existing customers are submitted discounted offers for fitness subscriptions. New customers are recruited through discount vouchers. Mainly our clients train for many years in our gym. Currently, however, an increased number of subscribers are switching to competitors.

SHIFT + ENTER to make a line break



- 2 → ***Think of your company's strategy and vision to identify your company's objectives and requirements for consulting services.***



- a. Does your company has clear and measurable Key-Performance-Indicators or objectives defined to achieve business goals?



- b. What measures and metrics do you have concerning your company's strategy, customer metrics such as customer satisfaction, empowering your workforce, internal process objectives associated with customer touchpoints or financial aspects?

(e.g. increasing sales by x-% within the next year)

The number of members is to be increased by 20 % in the next 6 months. Corporate strategy goals or other requested issues are not defined internally.

SHIFT + ENTER to make a line break



- c. What goals do you want to achieve with communication and marketing measures?

Choose as many as you like

<input checked="" type="checkbox"/> A	Increase awareness and reach	✓
<input checked="" type="checkbox"/> B	Exploring new target groups	✓
<input checked="" type="checkbox"/> C	Increase customer engagement	✓
<input type="checkbox"/> D	Generate leads	
<input type="checkbox"/> E	Sales promotion	
<input type="checkbox"/> F	Image building	
<input type="checkbox"/> G	Opinion leadership in business-critical areas and channels	
<input type="checkbox"/> H	Other objectives	

**OK** ✓ Press ENTER

- d. Which concrete objectives does your company want to achieve through consulting services?

New customers should be attracted. Existing customers should be bound to the gym for the long term. Our customers should like to come to our gyms. We want to sell fitness as a lifestyle and motivate our members to a healthier lifestyle.

SHIFT + ENTER to make a line break

**OK** ✓ Press ENTER

- 3 → ***Try to put yourself into the role of your (potential) customers and answer the following questions concerning the Unique Selling Proposition (USP) and Value Proposition of your business model.***

**Continue** Press ENTER

- a. What core value is your company delivering to the customers? Which customer needs are the products and services satisfying?

We offer our members to belong to our unique community. At regular intervals, we try to get our customers excited about out-of-the-ordinary joint training opportunities and external workshops, and to promote joint participation in the community. We try to Personal trainers as well as employees of the studio try to satisfy all needs of the customers.

SHIFT + ENTER to make a line break



- b. What do people in your market see as your company's strengths? What are the first considerations that come to mind, why customers come to you?

Easy access to the gyms by public transport, central location of the gyms and available parking.

SHIFT + ENTER to make a line break



- c. What is your Unique Selling Proposition (USP)? What do you do that your competition can't?

Think of resources such as human, financial, physical, digital resources, your company culture, market position, company reputation or the service or product value.

We offer our members the feeling of belonging to the fitness community. Our personal trainers are first class and well educated. Our trainers also like to work out in their free time in our studios.

SHIFT + ENTER to make a line break



- d. Do your customers have the chance to order the same products or indistinguishable services from competitors on the market?

Yes ✓

No

- 4 → ***Think of your core competencies, key resources such as the workforce and your company's culture in terms of customer benefits.***

**Continue**

Press ENTER

- a. Which key resources are needed to meet customer value proposition?

E.g. think of human resources, intellectual, physical, digital or financial resources

Key resources are our unique employees. The working atmosphere is very good. We also often receive feedback from our customers about our friendly and well-trained staff. The training devices are replaced on average every 2 years. However, this is a predetermined exchange program of the manufacturer of fitness equipment, which also use other gyms.

SHIFT + ENTER to make a line break

**OK** ✓

Press ENTER

- b. What key activities are necessary to offer products and services?

Think of what activities and internal processes does the value proposition require?

A proper maintenance of the fitness equipment. A good training of the customers in the correct handling of the fitness equipment. As well as friendly staff, which offers the customer assistance.

SHIFT + ENTER to make a line break

**OK** ✓

Press ENTER

5 → **Think of the market situation and changes in your business sector affecting your company.**

**Continue**

Press **ENTER**

a. In which industry is your company active?

- A** Consumer Goods & Trade
- B** Internet & IT
- C** Consulting
- D** Marketing, PR, Design
- E** Industry
- F** Construction & Architecture
- G** Art, culture and sports ✓
- H** Education, Science & Education
- I** Media & Publishers
- J** Tourism & Gastronomy
- K** Auditing, Taxes, Law

b. What people in your market likely to see as your weaknesses? Could any of these weaknesses seriously threaten your business?

Perhaps competitors see the emigration of customers as a weakness. Lately cheap offers from other studios are being noticed. We can not keep up with low prices and see them as a danger.

**SHIFT + ENTER** to make a line break

**OK** ✓

Press **ENTER**

- c. What plans do you have in place to improve your market position?

New customers are to be acquired. For example, sample trainings should be held with fitness trainers free of charge.

SHIFT + ENTER to make a line break



- d. How do you see changes affecting your company in **technology** in the near future?

(these can be helpful but also harmful changes)

0	1	2	3	4	5	6	7	8	9	10
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No changes

Disruption

- e. In your opinion, what concrete considerable technologies are changing in your industry?

There are more and more online tutorials for fitness exercises. Gyms also have their own terminals where online workouts can be held with virtual fitness trainers.

SHIFT + ENTER to make a line break



- f. ... in **social patterns and purchasing behaviour** in the near future?

(these can be helpful but also harmful changes)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

No changes

Disruption

- g. In your opinion, what concrete considerable social patterns and buying habits are changing in your industry?

The trend seems to continue to go to low-cost providers.

SHIFT + ENTER to make a line break





h. ... in **government regulations or support** in the near future?

(these can be helpful but also harmful changes)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

No changes

Disruption

i. ... **in market trends** in the near future?

(these can be helpful but also harmful changes)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

No changes

Disruption

6 → **Think of your strongest competitor and draw comparisons between your company and your competitor when answering the following questions.**

**Continue**

Press ENTER

a. Who are your main competitors that can have a large influence on your business?

In about 1 km away, 1 year ago opened a large fitness chain. This has over 100 locations in German-speaking countries.

SHIFT + ENTER to make a line break

**OK** ✓

Press ENTER

b. Who are your strongest competitors in the context of service and product offer and communication measures? Are there successful online or offline advertising campaigns they running?

e.g. such as how your competitors encourage their customers to buy from them in marketing campaigns

The strong awareness of the fitness chain and financial superiority in the marketing budget attracts some customers to the competition. Frequently discounted fitness subscriptions are offered. With promotions, new customers are acquired, who only have to pay for the subscription after a few months.

SHIFT + ENTER to make a line break

**OK** ✓

Press ENTER

- c. What are your main competitors' strengths? What is something good about their service or product offer that you don't have in your offer?

High awareness, financial equipment and huge training areas spread over several floors.

SHIFT + ENTER to make a line break



- d. What are the elements where your services or products are better than your competitors'?

Our employees, personally coordinated trainings, training tips from personal trainers as well as the creation of individual training plans

SHIFT + ENTER to make a line break



- 7 → ***Try to put yourself into the role of your company's stakeholders and shareholders and answer the following questions concerning their expectations, influencing factors and key partnerships.***



- a. Are there other suppliers in the market your company could order the inputs? How difficult is it for your company to switch to a different supplier?

Fitness equipment is sold by a manufacturer only with a long-term bond. A switch is difficult.

SHIFT + ENTER to make a line break



- b. Are there any employees or influencers who could have a positive influence on the communication activities?  
e.g. persons who may have opinion-forming effects on the company's reputation

We have several well-known and popular fitness trainers in the local fitness scene. These are also successful on social media channels with their fitness programs.

---

SHIFT + ENTER to make a line break



- c. Who are the key partners and key suppliers? In which key activities and resources does the company depend on partners?

Key Partner is the manufacturer of fitness equipment. Supplements that can be taken before or after training are also supplied by a partner company.

---

SHIFT + ENTER to make a line break



- 8 → ***Think of you company's service and product portfolio concerning price, product and service lifecycle and other related aspects.***



- a. Which main sources of income can be earned such as sale of services and products, advertising revenues, subscription fees or others?

Subscription fees

---

SHIFT + ENTER to make a line break



- b. To what extent is there a price transparency in your industry? Are the competitors' prices for their products and services readily available to the customers?

There is a high price transparency. Customers can easily make price comparisons.

SHIFT + ENTER to make a line break



- c. How easy is it to find substitutes to your products or services? Are there similar products or services that could cause a decreasing demand for your products or services?

There are several gyms in the area. Due to the small number of manufacturers and strict product policy of the manufacturers of fitness equipment, no differentiation can be achieved by the equipment. Therefore, competition studios could be chosen. Often it could be a pricing decision for customers to switch.

SHIFT + ENTER to make a line break



- d. At what stage of the product lifecycle do you see most of your services or products in your industry in terms of customer demand?

A Introduction

B Growth ✓

C Maturity

D Saturation

E Decline

- e. Are there any of your services or products that are experiencing significant growth in demand?

More and more supplements are being bought by customers

SHIFT + ENTER to make a line break



9 → ***Think of you company´s brand image and positioning from your customer´s and market´s point of view.***

**Continue** Press ENTER

- a. How is your business positioned in the marketplace?  
What image is associated with your company?

premium supplier

---

SHIFT + ENTER to make a line break

**OK ✓** Press ENTER

- b. How well is your own perceived reputation on the market?

We often receive positive feedback from customers concerning our staff. Also, our studio is often recommended by existing customers.

---

SHIFT + ENTER to make a line break

**OK ✓** Press ENTER

10 → ***Think of you company´s communication measures and communication channels which your company addresses (potential) customers.***

**Continue** Press ENTER

- a. On which channels does your company communicate with (potential) customers? Which channels work best? What are the most successful touchpoints with (potential) customers?

e.g. Website, Mail, Social Media, Support ...

Phone, website, personal interaction, e-mail.  
Most of our customers ask first for a tryout in our studio. Then they come in person and we discuss everything else with the potential customer.

---

SHIFT + ENTER to make a line break

**OK ✓** Press ENTER

- b. Have online communication strategies and measures been implemented in the following channels in the past?

Choose as many as you like

- A Search engine marketing
- B Social media marketing
- C Online PR (e.g. News sites)
- D Display advertising
- E Newsletter marketing
- F Online video broadcasting
- G Corporate website ✓
- H E-commerce web shop
- I Corporate Blog

**OK** ✓ Press ENTER

- c. How deep are your advertising budgets compared to your strongest competition?

(As far as you know)

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

much lower much higher

- d. What could you improve in communication with your customers? Think of communication activities and all touchpoints with customers.

The price aspect has to be put into the background. The benefits of training in our gyms need to be reinforced in communication.

---

SHIFT + ENTER to make a line break

**OK** ✓ Press ENTER

- e. Tell us more about your marketing metrics: We take measured risks to enable innovation

- Y Yes
- N No ✓

f. ... We have clear and quantifiable goals for measuring the success of our digital strategy

 Yes No ✓

g. ... We use customer insights gained through cross-touchpoint analytics to drive real-time optimization

 Yes No ✓

h. ... We use a range of financial and nonfinancial metrics to understand the success of each touchpoint

 Yes No ✓

i. ... We have a strategy for communicating with customers across multiple channels

 Yes No ✓

11 → Thank you for your participation. Please leave us your e-mail address. We are happy to contact you. \*

thomas@mustermannfitness.at

---

 Press ENTER

## Expert interview questions – 4. Appendix

### **Benefits and applicability**

Can the e-service offer greater flexibility in the consulting service? (Availability, time and location independence) *(Nissen & Seifert, 2015)*

How do you rate the following benefits that can result from the e-service?

- cost savings from a consulting perspective *(Schüle et al., 2016)*
- lower prices from the customer's point of view *(Schüle et al., 2016)*
- perception as an innovative provider *(Nissen & Seifert, 2015)*
- higher attributed digitization competence *(Nissen & Seifert, 2015)*

Is it possible to achieve a competitive advantage by the e-service? On the one hand can be achieved from the efficiency advantage (cost savings by the consulting process) as well as on the effectiveness advantage (service offer per se from the point of view of the customer)? *(Greff, Johann, & Werth, 2017)*

### **Risks**

Do you see any danger that the e-service will contribute to a deterioration in the relationship between consultants and customers? (e.g. lack of personal communication) *(Nissen & Seifert, 2015)*

What do you think about the following risks:

- service is perceived as being too standardized (it does not respond to the customer's individual problems) *(Nissen & Seifert, 2015)*
- lower perceived quality of service – e.g. free service has no value *(Nissen & Seifert, 2015)*
- low level of trust between customers and consulting agency *(Nissen & Seifert, 2015)*
- IT security threats – e.g. system failure, data security threats *(Keuper et al., 2018)*

### **Potential**

Can you imagine digitizing other related consulting services? E.g. consulting web shop or online consulting service configurator? *(Christensen, Wang, & Bever, 2013)*



In your opinion, does the e-service have the potential to be implemented in other agencies or in the industry? *(Christensen, Wang, & Bever, 2013)*

How do you generally see the potential of automated consulting services where human contact is substituted? *(Keuper et al., 2018; Nissen, 2018)*

What would you classify as enthusiasm factors of the-service? What you would not expect if you use such an e-service as a consultant? E.g. a base factor is that the application is available 24/7 hours. *(Matzler & Hinterhuber, 1998)*

### **Target group**

What could be the inhibitions from the customer's point of view, to participate in the e-service? (e.g. data security, missing personal contact, lack of trust) *(Nissen & Seifert, 2015)*

What type of customer do you primarily think that this e-service is suitable for? Does the decision whether the e-service is perceived positively by potential customers in the participating depends on the individual person? E.g. which target group accepts an online self-analysis? *(Nissen & Seifert, 2015)*

What type of customer do you primarily think that this e-service is suitable for? Does the decision whether the e-service is perceived positively by potential customers in the participating depends on the individual person? E.g. which target group of persons accepts an online self-analysis? *(Keuper et al., 2018)*

Should the e-service application be presented via the agency's website or via other digital channels such as blogs or social media pages of the agency? *(Hofacker et al. 2007)*

### **User Experience**

How would you view the usability of the e-service application from the following angles: *(Nissen & Seifert, 2015; Meyer & Schwager, 2007)*

- simplicity of usage
- responsiveness of the application
- design and aesthetics
- navigation behaviour
- duration of participation

Are the test contents and questions conclusive? Are they consistent? Are they complete to get a meaningful result for the consultant? (*Meyer & Schwager, 2007*)

### **Query logic and content**

Which standardized consulting tools do you use in practice? E.g. in positioning workshops or during the initial analysis of the customer: (*Hill & Westbrook, 1997; Wind & Mahajan, 1981; Osterwalder, Alexander, 2004; Kotler, Keller, Brady, Goodman, & Hansen, 2016; Lippold, 2013; Kaplan & Norton, 1998; Reineke & Bock, 2007*)

- SWOT analysis
- Portfolio analysis
- Business Modell Canvas
- Five Forces Model
- Benchmark Analyse
- Balanced Scorecard
- Customer needs analysis

Are there any other techniques or tools that have not yet been mentioned?

How important do you see the flexibility, extensibility and interchangeability of questions or individual modules in practice? (*Seifert & Nissen, 2016*)

### **Fields of application**

Can the e-service be seen as a new acquisition channel? Basic question: Is the e-service part of the initial customer acquisition or should the e-service be provided only after personal first contact (*Greff et al., 2017*)

Can the e-service be seen as another sales channel? As an alternative to a personal workshop and customer needs assessment? (*Lippold, 2013*)

The e-service is currently being used in the "analysis phase" from the perspective of the consulting process. Is it conceivable to expand the fields of application (with other content) in further consulting phases? If yes, where? (*Werth, Greff, & Scheer, 2016*)

Should a detached application be implemented under a separate domain? (so that it is not immediately possible to get back to the consulting agency – e.g. it is possible to participate in advance by any user in order to carry out their own situation analysis?) (*Hofacker et al. 2007*)

**Outcome and results**

Are the results of the e-service useful? Can consulting approaches be gained from this or further measures be taken in the consulting process? (*Nissen, 2018; Christensen, Wang, & Bever, 2013*)

For which specific services in our industry is the e-service application applicable? E.g. strategic consulting, positioning or operational PR measures such as texting or designing folders or digital communication measures and products? (*Christensen, Wang, & Bever, 2013*)

To ensure a high utility and usability of the results, in what form should the results of the e-service be further processed? E.g. export in CRM system, automatic notifications about participation to consultants (*Seifert & Nissen, 2016*)

## LIST OF ABBREVIATIONS

API .....	Application Programming Interface
B2B .....	Business to Business
B2C .....	Business to Consumer
CRM .....	Customer Relationship Management
CSS .....	Cascading Style Sheets
CSV .....	Comma-separated Values
ERP .....	Enterprise Resource Planning
GUI .....	Graphical User Interface
HTML .....	Hypertext Markup Language
HTTPS .....	Hypertext Transfer Protocol Secure
PHP .....	Hypertext Preprocessor
IT .....	Information Technology
JSON .....	JavaScript Object Notation
JS .....	JavaScript
PR .....	Public Relations
SEA .....	Search Engine Optimization
SSL .....	Secure Sockets Layer
SEO .....	Search Engine Optimization
SMART .....	Specific Measurable Accepted Realistic Timely
SWOT .....	Strengths Weaknesses Opportunities Threats
ICT .....	Information and Communications Technology
IoT .....	Internet of Things
TLS .....	Transport Layer Security
URL .....	Uniform Resource Locator
USP .....	Unique Selling Proposition
UX .....	User Experience
XML .....	Extensible Markup Language

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