

Virtual recruiting

A qualitative analysis of expectations and requirements for the digital transformation in recruiting

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Kurzfassung

Diese Masterarbeit untersucht qualitativ die digitale Transformation des Recruiting-Prozess im Rahmen einer Einzelfallstudie. In der Fallstudie wurden Interviews mit 15 Personen geführt, die für eine internationale Unternehmensberatung tätig sind. Dabei wurde der Recruiting-Prozess und dessen Veränderungen durch die fortschreitende Digitalisierung, die durch die Covid-19-Krise nochmals beschleunigt wurde, beleuchtet. Auf der Grundlage vorhandener Forschungsergebnisse und Prozessdokumentationen wurde einen beispielhaften Recruitingprozess erarbeitet, der die Perspektive von Kandidaten und Recruitern integriert. Die Ergebnisse geben einen Überblick über die aktuelle Entwicklung und Erwartungen an zukünftige Veränderungen von Recruitingprozessen und der dabei eingesetzten Technologien. Wir zeigen Vor- und Nachteile des Einsatzes digitaler Technologien für verschiedene AKtivitäten im Recruiting-Prozess auf, leiten ab, für welche Arten von Recruiting-Events virtuelle Durchführungsformen geeignet sind und identifizieren Anforderungen aus der Perspektive der End-Anwender an die für Recruiting-Aktivitäten eingesetzten Tools.

Abstract

This master thesis qualitatively explores the digital transformation of the recruiting process in a single case study setting. We have conducted interviews with 15 participants working for an international consultancy, of which we have analyzed the recruiting process and the changes to it induced by the ongoing digitalization which was accelerated by the Covid-19 crisis. Based on existing research and process documentation we showcased an exemplary recruiting process integrating the perspective of candidates and recruiters. The results give an overview of the recent development and expectation regarding future changes to recruiting processes and used technologies. We point out advantages and disadvantages of using digital technologies for different activities along the recruiting process, deduce for which types of recruiting event virtual setting are suitable and identify requirements practitioners have towards tools used for recruiting activities.

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CHAPTER 1

Introduction

The outbreak of Covid-19 at the end of 2019 and the following worldwide pandemic had a severe impact on every aspect of our lives. Traveling was prohibited, social contacts had to be limited, and working from home became necessary. This resulted in the so called “new normal” work environment pushing the ongoing digital transformation forward in an unprecedented manner. Virtual meetings, videoconferencing, and other forms of long distance collaboration became a necessity to keep the business running and were not just an addition to in person meetings anymore. In most situations, it was quite easy to switch to virtual meetings, as many companies had the infrastructure for remote working already in place.

Having said that, most recruiting activities, especially recruiting events (i.e., job fairs, recruiting workshops, assessment centers and interviews), were still conducted in person and there are good reasons for this: Getting to know some potential candidates, their skills, personality, and other traits can be done much better by meeting someone personally. For people looking for a job, the same applies; it is easier to discover different potential employers and uncover whether they fit by interacting with them directly. However, conducting such events was not feasible while limiting social contacts to the bare minimum was necessary.

Tools supporting the recruitment in the different stages of the recruiting process are rising quickly and have been rising even before the pandemic (e.g. [Bogen and Rieke, 2018, Holm, 2012, Maxl-Studler et al., 2021]). Different tools have different focus and are aiming at various goals. Some offer predictive analytics trying to aid the decision making process [Bogen and Rieke, 2018], others try to overcome shortcomings of “classical” videoconferences with respect to recruiting events or aid in the management of applications, yet others have the goal of streamlining the recruiting process as such [Eckhardt et al., 2014, Laumer et al., 2014]. But all of them accomplish this with varying success and bring challenges for recruiting [Lang et al., 2011]. Large parts of recruiting processes had been still analog, especially when it comes to the interaction with potential applicants,

but recent events forced recruiting to swiftly adapt processes and to accelerate digital transformation in order to keep the recruiting pipeline up.

Digital transformation has been present for a few years now and is understood quite well for the daily business [Ross, 2003, Vial, 2019]. However, recruiting was touched just slightly by it until now. This changed in the last years, as digital transformation in recruiting is accelerating, especially in practice [Weitzel et al., 2020] (e.g., in the form of process standardization as described by [Eckhardt et al., 2014]). However, conceptualization of digital and virtual recruiting, so called e-recruiting, is lacking in current research [Abia and Brown, 2020]. Also, from a practitioners point of view, the expectations of candidates and recruiters towards e-recruiting are just getting uncovered and are not understood sufficiently [Wolfswinkel, 2009], especially as large parts of the recruiting process have only been partially supported virtually or digitally until now [Weitzel et al., 2020, Holm, 2012]. Additionally, the effects of an increased usage of digital tools and digital transformation in recruiting on the recruiting process need additional attention in research [Holm, 2012].

These points set out the focus of this master thesis: The goal is to identify the expectations and requirements that both recruiters and candidates have towards the digital transformation in recruiting as such and towards tools that enable the digital transformation in recruiting, and add to the conceptualization of e-recruiting. This master thesis focuses on digital interaction between the two parties involved in the recruiting process and during the accompanying recruiting events. The impact of Covid-19 can be considered as enormous in this context, since in-person events had to be converted to a digital setting nearly out of nowhere. As this forced recruiting to be conducted virtually, many experiences with e-recruiting were collected over the past years, and valuable lessons learned could be gathered in practices that should be considered in research [Maxl-Studler et al., 2021]. Thus, the following research questions are the basis for this thesis:

1. Which changes to the recruiting process were induced in the context of its digitalization?
2. Which advantages and disadvantages does e-recruiting and a digital recruiting process have from the perspective of recruiters and candidates?
3. Which types of recruiting activities are seen as especially suitable to be conducted virtually?
4. What are the expectations of recruiters and candidates regarding a digital recruiting process?
5. What are the requirements of recruiters and candidates regarding technologies supporting the recruiting process?

For answering these five research questions we have first explored the current state of research in the domains of digital transformation, human resource management and recruiting. From existing research on recruiting processes, we have developed our own version of a four-step recruiting process serving as guide rails for exploring the recruiting process in the case study. Second, we have analyzed the recruiting process of an international mid-sized consultancy qualitatively using a single case study [Eisenhardt, 1989, Eisenhardt and Graebner, 2007]. Semi-structured interviews with 15 employees of this company have been conducted following [Kallio et al., 2016]. These interviews serve as the main data source. Further, process documentation, KPIs of the recruiting process and other additional data sources covering the status quo in the labour market have been consulted to substantiate and provide context to the findings of the interviews.

The results of the case study uncover recent changes to the recruiting process of the company especially due to the increased use of digital technologies also mandated by the necessary social distancing measures to counteract the Covid-19 pandemic. Positive effects of these changes include increased flexibility and cost reduction, improved efficiency, speed and transparency of the process, and a better comparability of candidates and employers and a process perceived as overall fairer. These are obvious advantages of a digital recruiting process. The main disadvantage is the limited social and personal interaction which cannot be overcome by the use of digital tools. This makes some recruiting activities less suited for digital settings, especially such with a high level of personal interaction like job fairs and networking events. Other activities focusing on unidirectional transfer of information, e.g., job advertisements and keynotes, are seen as very well suited to be fully supported by digital means. Thus, the expectations of recruiters and candidates is increasing use of digital technologies in the recruiting process confirming recent studies [Weitzel et al., 2020]. Hybrid formats of interviews and increased automation of administrative tasks are amongst the most expected future developments in recruiting according to the interview participants. Improvements in the area of usability and cross-platform functionality are seen as necessary requirements for tools supporting the recruiting process.

This thesis is structured as follows: chapter 2 is dedicated to the theoretical background of the domains central to this thesis, digital transformation and recruiting, In chapter 3, this is followed by the presentation of the applied research method, a single case study, the findings of which are presented in chapter 4. In chapter 5, the results are discussed and contextualized to the presented status quo in research.



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Theoretical Background

In order to gain a sound understanding of the two domains subject to this master thesis, digital transformation and recruiting, we start with examining the research context and theoretical background of digital transformation and subsequently Human Resource Management (HRM), with a special focus on recruiting, in this chapter. Definitions, theoretical concepts and further fundamentals of these topics will be laid out. Regarding the topic of HRM, core tasks and the organizational context will be addressed. In the focus domain of recruiting this includes an even more detailed description of the typical tasks and processes especially highlighting the hiring funnel and recruiting process as well as different recruiting events. This chapter finishes with an overview of the status quo of digital transformation in HRM and recruiting from a research perspective.

2.1 Digital Transformation

The impact of digital transformation and digital technologies is manifold and ubiquitous [Iansiti and Lakhani, 2014, Yoo et al., 2012]. The overarching impact changes not only individual organizations but also the surrounding industries as well as the whole society [Vial, 2019]. Often, these changes are described as radical and disruptive [Lucas et al., 2013], altering competition within a market, interaction between businesses and their customers or other businesses as well as the creation of value [Pousttchi et al., 2019, Krcmar, 2022]. Digital transformation is also often mentioned to be a key enabler and driver for innovation [Hamidian and Kraijo, 2013]. New business models arise as new players enter the market taking on established companies [Pousttchi et al., 2019]. Prominent examples include Uber shaking up the market of cabs or Airbnb redefining the market for short-term vacation homes. Previously non-overlapping industry sectors are brought together introducing new market participants and thereby altering the power structure in an industry [Yoo et al., 2012]. Existing business models transition from selling products to licensing services [Iansiti and Lakhani, 2014], such as software

companies which started offering their applications in a license or subscription model instead of selling a physical disk to install their software for a one-time fee. Also, the interaction between people, as well as between people and organizations, changes through the usage of digital means [Yoo et al., 2012]. Examples for changed private interaction are the shift to communicating via text messaging instead of calling someone by phone or meeting in person [Bloomberg, 2018]. Alteration in the interaction between persons and organizations includes the increasing amount of data that is willingly given to organizations for example when conducting business or buying online, but also agreements for tracking driving style and fitness activities influencing the insurance premium [Yoo et al., 2012]. In some areas, such as the financial services sector or commerce, the digital transformation has already impacted the whole industry changing business models, the structure of the respective market as well as how basic processes are conducted or how value is created [Vial, 2019, Lucas et al., 2013]. Different areas and types of impact of the digital transformation have been described by [Pousttchi et al., 2019]. These include an improvement of processes with regard to efficiency, transparency, and speed as well as integration. [Pousttchi et al., 2019] also acknowledge possible changes to recruiting practices and processes. Besides internal processes, areas such as product and business development are affected as well. These impacts are further amplified by an increasing amount of data being available and exploited. Through new ways of interaction and networking, further network effects arise and create an additional digital transformation based impact.

Being omnipresent, the concept of digital transformation and its general implications are understood quite well in literature (e.g., [Ross, 2003, Vial, 2019]). However, in order to provide all readers with the same understanding of digital transformation, the next section is dedicated to defining digital transformation in general as well as other related terms. This is considered necessary in particular since fundamental concepts and terminology in the context of digital transformation are often not clearly defined or used in an incoherent manner both in practice and in literature [Vial, 2019], especially in the context of digital human resource management [Strohmeier, 2020].

2.1.1 Definition and Fundamentals

A broadly accepted definition of digital transformation developed by [Vial, 2019] based on an analysis of the status quo in academic literature regarding digital transformation condenses existing findings and defines digital transformation as:

“a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies” [Vial, 2019, p. 118].

“Combinations” of different technologies are at the core of the definition of [Vial, 2019]. Furthermore, being combinable is one of three fundamental characteristics of the technologies that are driving the transformation of businesses [Brynjolfsson and McAfee,

2014, Iansiti and Lakhani, 2014]. The possibility of combining existing technologies or software, which are often already modular by design with the intention to allow for combination, e.g., through the usage of defined and standardized interfaces, is a source of nearly limitless potential innovations [Yoo et al., 2012]. The second property is exponential growth of the computational power [Brynjolfsson and McAfee, 2014] – also known under the name “Moore’s Law” [Moore, 1998] – and with that an increasing scalability [Iansiti and Lakhani, 2014]. Third, the enabling technologies are digital, making data universally available [Brynjolfsson and McAfee, 2014] at extremely low costs [Iansiti and Lakhani, 2014].

[Vial, 2019] also mentions in his definition that digital transformation “*aims to improve*”. These improvements can take several forms: Operational efficiency and operational performance can be enhanced through digital transformation; examples for efficiency enhancements are process improvements and automation or cost and time saving. Improvements to performance include generating growth, bettering financial performance or generating a competitive advantage [Vial, 2019]. These improvements to a business are also included in most other definitions of digital transformation that can be found in literature [Brynjolfsson and McAfee, 2014, Iansiti and Lakhani, 2014, Mazzone, 2014]. However, it should be emphasized that the process of digital transformation just “*aims to improve*” which means that changes for the better are not necessarily guaranteed.

The third and last important aspect to point out in the definition of [Vial, 2019] is that digital transformation is not limited to organizations. In the presented definition the object of the improvement is “*an entity*” rather than a firm or a company or even an organization. This is a clear difference from many existing definitions, especially from practitioners, that focus explicitly on the radical change of businesses, their business models and processes as well as their value creation process [Krcmar, 2022, Mazzone, 2014]. While digital transformation changes how companies create and capture value [Iansiti and Lakhani, 2014], it also touches nearly all other areas of our lives [Yoo et al., 2012].

Thus, the definition by [Vial, 2019] extends digital transformation beyond the boundaries of a company and hereby includes the impact of digital transformation also on a socio-economic level. Complete industries are affected by the digital transformation as is each and every one of us – society as a whole. This aspect becomes especially evident when considering the differentiation of digital transformation versus IT-enabled transformation. IT-enabled transformation regards primarily organization-internal transformation and optimization of processes through their digitization and digitalization. (The differentiation of the terms digitization and digitalization will be addressed in the next section.) Digital transformation on the other hand, includes the complex reciprocal interaction between the environment and the companies undergoing a transformation with digital factors involved and thus is not limited to changes internal to an organization [Vial, 2019].

This is also the reason why we regard digital transformation, as opposed to IT-enabled transformation, as the phenomenon relevant for this thesis. As we will see in the respective chapter, recruiting is an area of HR activities that is inherently and more than any other

concerned with the interaction with persons external to an organization since the goal of any recruiting activity is to attract and hire the right persons with the right set of skills for the right job offering often from outside the current workforce [Torrington, 2008, Abia and Brown, 2020].

2.1.2 Basic Terminology

As mentioned, terminology in the area of digital transformation is used neither consistently nor coherently [Vial, 2019, Bloomberg, 2018, Strohmeier, 2020]. Especially the terms *digitalization* and *digitization* are describing closely related concepts and are thus often used mistakenly as synonyms [Bloomberg, 2018]. Thus, basic terms will be disambiguated in the following, with the additional goal of clarifying how they will be used throughout this thesis.

Digital

While an analog signal is described by continuous values, a *digital* signal is a signal represented by discrete values over time. Transferring this to digital data means digital data is represented by discrete values, usually in binary form [Hamidian and Kraijo, 2013]. This gives digital data some special characteristics. Generated digital data is homogenized [Yoo et al., 2012] and thus can be reproduced and distributed practically indefinitely at close to zero marginal costs [Iansiti and Lakhani, 2014]. This makes digital data universally available and reusable, and thus turning it into a non-rival good [Brynjolfsson and McAfee, 2014].

Digital Technologies

As described in the previous section, *digital technologies* are the enabler of the digital transformation [Vial, 2019] because of their three fundamental characteristics [Brynjolfsson and McAfee, 2014]:

First, they can be combined. The second characteristic is the exponential growth of their computational power and with that an ever increasing scalability. Third is the utilization of digital data embracing the characteristics of digital information described above [Brynjolfsson and McAfee, 2014].

This allows for digital technologies to be reprogrammed over and over to meet the changing needs of their users [Yoo et al., 2012]. Digital technologies are also often referred to as Information and Communication Technologies (ICT) [Evangelista et al., 2014] since the processing of information and the facilitation of communication and distribution of information are central use cases for the application of digital technologies.

Digitalization

For *digitalization*, a range of definitions exist. Many include the use of digital technologies and their influence on business models, processes and the value creation process [Garnter

Inc., 2022a, Bloomberg, 2018, Westerman et al., 2014, Strohmeier, 2020]. Others mention changes in the social life of people and their interaction [Bloomberg, 2018, Westerman et al., 2014]. Thus, digitalization can be seen as having a socio-technical component to it [Strohmeier, 2020]. Digitalization refers to change that is happening through the use of digital technologies. The term digitalization does not necessarily imply any improvements to the business; in its fundamental meaning it merely refers to changes introduced through the usage of digital technologies.

Digitization

Digitization, as opposed to digitalization, denotes the mere act of lifting an analog process, steps of a process or just documents from an analog to a digital form [Bloomberg, 2018, Strohmeier, 2020]. This includes making analog information available in a digital form or more technically speaking encoding data in zeros and ones [Garnter Inc., 2022b, Hamidian and Kraijo, 2013]. Hence, the concept described by digitization is more narrow than the one described by digitalization. It just refers to changing from analog to digital tools. Examples for this would be filling and signing a form digitally on the computer instead of manually with pen and paper.

Digital Transformation

For the sake of completeness and to provide a comprehensive but concise overview of the relevant terms, we also summarize the definition of *digital transformation* in this terminology chapter. The term digital transformation is understood to mean the ubiquitous application and usage of digital technologies with the goal to improve how the world operates and how people, organizations and other entities interact [Vial, 2019]. Digital transformation is thus an overall, all-encompassing phenomenon with a larger scope than digitalization.

Exemplary Summary of the Terminology

The relationships between these terms will become more clear by using them in the context of an organization to provide tangible examples:

Digital transformation is first of all a socio-technical phenomenon [Strohmeier, 2020] affecting the whole society and not only a single industry or a single organization. Pushed by these changes, a company might launch a digital transformation initiative as they consider it necessary for their strategic advancement [Strohmeier, 2020]. Such a digital transformation initiative usually has the objective of improving the operational effectiveness or efficiency [Pousttchi et al., 2019] set out by the overall strategy of the given company. Several *digitalization* projects are conducted to support the digital transformation initiative. These might include automation of processes, reorganization of the departments or hiring new employees with specific skills [Evangelista et al., 2014, Gilch and Sieweke, 2020]. In the context of each single digitalization project, *digitization* is applied. For automating a given process step it can be required to enter the data into

a computer instead of handwriting them on a printed form. To facilitate digitization, *digital technologies* are used.

[Strohmeier, 2020] has shown that the presented concepts and terminologies can be transferred to and are applicable in the context of Human Resource Management, which will be at the focus of the next chapter.

2.2 Human Resource Management

Recruiting is one of the core activities of Human Resource Management (HRM) [Varun Shenoy and Aithal, 2018]. Hence, the broader field of HRM will be examined first in order to set the context for recruiting, the focus topic of this thesis, starting with existing definitions of HRM as well as their discussion and relation. Second, objectives of HRM will be touched on briefly to provide the context to other areas in the domain of HRM which are affecting recruiting as well as they are affected by recruiting. This will provide the starting point for diving into the topic of recruiting.

2.2.1 Definition and Basic Concepts

[Armstrong, 2006] defines HRM as

“a strategic and coherent approach to the management of an organization’s most valued assets – the people working there who individually and collectively contribute to the achievement of its objectives” [Armstrong, 2006, p. 3].

This definition includes several aspects essential to HRM. First, it mentions what is being managed – people or more precisely the employees of a company – and attributes a high level of importance for the organization to them. Second, it includes the strategic aspect of HRM: HRM needs to be aligned with the strategic goals and orientation of the overall organization strategy [Arthur, 1994]. The importance of human resources, mentioned in the definition of Armstrong, and their management is underlined by several papers indicating that effective HRM brings a competitive advantage and superior financial performance to a company [Becker and Huselid, 1999, Becker and Huselid, 2006, Lei and Jing, 2016]. The relevance of HRM is further stressed by [Torrington, 2008, p. 4] stating that HRM can be considered as the *“basis of all management activity”*.

Other definitions of HRM are based on the approaches and goals that are followed. [Torrington, 2008] differentiates between two ways for defining HRM. The first, generic one is based on management activities and objectives; the second one on the philosophy and approach how these HRM activities are executed. The former coincides with classic personnel management. The objectives referred to by the first, more classic, definition are staffing objectives, performance objectives, change-management objectives and administrative objectives. These are set out by the top-management, usually in a top-down fashion, to direct the employees and give them clear targets they have to

reach – especially in the context of performance objectives. Thus, this first definition sees humans as just another resource for the company that needs to be managed. On the contrary, the second definition, presented by [Torrington, 2008], puts the humans themselves at the center of the management activities; not quantitative and financial objects are at the focus, but the personal development and well-being of the employees.

This distinction in a classical, goal and control focused approach and an approach focused more on the behavior, attitude, and development of the employees is shared by other researchers: [Arthur, 1994] outlines different types of Human Resource Management systems based on the objectives targeted in the management of human assets. HRM systems in this context refer to the composition of HR practices and policies that constitute the operationalization of HRM. HRM is an “*open system consisting of people, technology, organisations, and management processes*” [Bondarouk and Brewster, 2016, p. 2655]. Systems focusing on reducing costs, often coinciding with performance objectives, are categorized as control focused HRM systems while systems focused on the behavior and attitude of the employees are labeled as commitment oriented HRM systems [Arthur, 1994].

2.2.2 Core Tasks of Human Resource Management

The main tasks of HRM include the coordination of the work force, i.e., the people working at a company, in an efficient and value-adding manner so that it is supporting the business activities of the organization in an ideal way. To succeed, the wishes and aspirations of the employees as well as the financial constraints and strategic goals of the business need to be considered and balanced [Torrington, 2008].

The four objective categories that are mentioned in the definition of [Torrington, 2008] give a clear structure to the main tasks of HRM:

- *Staffing Objectives* include any activities related to finding, hiring, training, retaining of employees as well as contract management and setting up organizational structures.
- *Performance Objectives* relate to motivating the employees so that they work at their best.
- *Change-Management Objectives* comprise all tasks required to handle changes to the organization including restructuring and onboarding of new personell as well as managing any, for example cultural, transformation of the whole company.
- *Administrative Objectives* summarize the bureaucratic tasks associated with personell management such as maintaining employee records, managing payments, including taxation and insurance, as well as ensuring the compliance to existing law including health, safety, and working hours regulations, data protection and likewise.

An important measure to reach these objectives is *recruiting* which will be examined in detail in the next chapter. While recruiting is also concerned with the aspects and goals of the first definition by [Torrington, 2008], the focus of recruiting is more on an individual person and thus fits the second definition by [Torrington, 2008] better, as the fitting of candidates to the job and organization needs to be ensured for successful recruiting [Kristof-Brown et al., 2002].

2.3 Recruiting

Recruiting is, as mentioned, a core activity of Human Resource Management with the goal of attracting, identifying and selecting the right people for open positions in a company. Hence, recruiting is an essential business function [Varun Shenoy and Aithal, 2018] with a strategic dimension and impact for the future development of the company [Oehlhorn et al., 2020]. The recruiting process is seen as one of the most critical processes of an organization [Laumer et al., 2009].

In the context of recruiting, companies are aiming for a shorter time-to-hire, a better fit of the selected applicant and an overall fairer process [Laumer et al., 2014]. Many companies wish to automate increasingly large parts of the recruiting process [Weitzel et al., 2020]. This is also in line with the goal to decrease the costs of administrative processes and improve the management of candidates' information [Simón and Esteves, 2015]. To reach these goals, companies apply digital technologies to enhance the recruiting activities [Laumer et al., 2014, Torrington, 2008]. This is often referred to as e-recruiting (e.g., [Bondarouk et al., 2016, Bondarouk and Brewster, 2016, Lang et al., 2011, Holm, 2012]). Existing research also indicates that recruiting is an area where digital transformation and the application of information technology is predicted to have many positive effects [Lang et al., 2011, Laumer et al., 2014]. In this chapter, the fundamentals, general purpose, and main activities of recruiting will be explored. Following this, the core recruiting process, which is also often called the hiring funnel [Bogen and Rieke, 2018], as well as accompanying recruiting events and activities will be introduced. The recruiting process, events alongside it and how they are affected by the digital transformation will be at the focus of the case study central to this thesis.

2.3.1 Fundamentals of Recruiting

Identifying and attracting candidates [Holm, 2012] and subsequently selecting new and fitting employees is the main purpose of recruiting with the goal of filling vacancies or enriching the workforce with new and talented employees. To reach this objective, different activities fall in the domain of recruiting. These include employer branding and job advertisement [Laumer et al., 2014, Torrington, 2008], determining the vacancy that is anticipating and identifying the need for hiring a new employee [Torrington, 2008, Fernández-Aráoz et al., 2009], accompanying the hiring process for attracting, screening, evaluating and selecting a new employee (e.g. [Fernández-Aráoz et al., 2009, Holm, 2012, Bogen and Rieke, 2018, Cappelli, 2001, Lang et al., 2011, Lee, 2007, Laumer et al.,

2014]), onboarding of the selected candidate [Fernández-Aráoz et al., 2009] as well as evaluation of the activities of the recruiting department [Laumer et al., 2014, Fernández-Aráoz et al., 2009, Bogen and Rieke, 2018]. These areas of recruiting are visited and described hereinafter.

Employer Branding

Employer branding is an activity of recruiting with strategic importance [Torrington, 2008, Mihalcea, 2017]. Employer branding is applying branding and marketing principles for the company as an employer [Backhaus and Tikoo, 2004]. According to [Sullivan, 2004], employer branding is concerned with how the company is perceived as a place to work by current employees, candidates and other stakeholders. Thus, the goal is to develop a particular positive outside image of the company [Laumer et al., 2014] and to become the employer of choice [Armstrong, 2006]. Company culture, values, and benefits are put forth to present the organization as an attractive employer [Torrington, 2008, Backhaus and Tikoo, 2004]. Marketing of the produce and the image of the company as such also play a role in this context, as persons prefer to work for companies which they know and whose products they like [Cappelli, 2001]. The overarching goal is to position the company on the job market as a better place to work than its competitors as well as build a positive organizational identity and culture which can further have a positive impact on employer brand loyalty and employer productivity [Backhaus and Tikoo, 2004]. This is hence an ongoing effort not directly connected to filling a given vacancy or recruiting a single new employee.

Vacancy Identification and Job Advertisement

Determining that there is a vacancy is a key part of the recruiting activities. Vacancies originate from employees leaving the company as well as from a change in direction or expansion of the business activities that is inducing the requirement for a different set of skills in the workforce [Torrington, 2008]. A basic step is to break the job down to its components. The components of the job, as it is done currently, need to be evaluated as well as any changes or additions in characteristics or tasks allocated to the job. Further, the characteristics of the position also define what is expected from an applicant and what an applicant might expect from this job [Torrington, 2008, Fernández-Aráoz et al., 2009]. All these information are then combined into a job description serving as a basis for a job advertisement. The exact content of this job posting depends further on where it is published but the main components are always the same. [Torrington, 2008] mentions a checklist of must-haves for a job advertisement: Employer details, job description including role, responsibility and tasks, optional provided training, skills and qualifications required (the so called competency profile), salary¹, and information on the application process.

¹Mentioning the salary in a job ad however highly depends on the country where the job offering is published. In Germany it is not common to state a salary figure in the job positing, whereas in Austria it is.

Filling the Vacancy

There are basically two different ways to fill a vacancy: A vacancy can be filled internally or externally. Filling vacancies internally means the open position is filled with employees that are already working for the company [Carroll et al., 1999, Holm, 2012]. This can be done via promotions or reorganization, which might also require additional training activities. Therefore, internal recruiting is often considered to be part of career planning and development rather than recruiting activities [Holm, 2012]. Thus, internal recruiting activities will not be further investigated in this thesis. Further options to overcome a shortage of workers are automation, outsourcing, or having existing personnel work more [Torrington, 2008].

Externally filling vacancies means the job is filled through recruiting a person from outside of the company [Carroll et al., 1999, Holm, 2012]. Also in this case there are different ways to go. [Carroll et al., 1999] mention three categories of methods for finding candidates outside of the company: closed searches, responsive methods, and open searches. In the case of closed searches the search range for potential candidates is limited upfront through only considering recommendations and people in the network of the HR manager or line manager, which also might include former employees. Responsive search resorts to outsiders that already approached the company in a speculative way or that have applied in the past for another job. Such applicants might be kept in a register so that they can be contacted when a new vacancy comes up that is fitting. Open search is the method when the job offering is posted to the general public. This might be done via the company's career website, (online) job boards, job centers, and likewise [Torrington, 2008, Holm, 2012].

The central process for filling vacancies is often referred to as the recruiting process which starts with the attraction of a candidate followed by a thorough evaluation of the candidate in order to determine their fitting to the job and the company and finishes with the selection of the best fitting one [Bogen and Rieke, 2018, Lang et al., 2011, Laumer et al., 2014]. As this is the central process of recruiting, it is also at the center of this thesis. Thus, it will be examined in detail in the upcoming subsection 2.3.2.

Onboarding a New Hire

Some researchers also include the onboarding of the selected candidate in the recruiting activities [Fernández-Aráoz et al., 2009]. Having successfully passed the recruiting process, new hires usually find themselves in an unfamiliar environment presenting the next challenges to them. When starting their new job, they are faced with new tasks and processes, meet new colleagues, and are in new offices. Helping them to settle in increases job satisfaction and performance and hence short- and medium-term retention rates [Fernández-Aráoz et al., 2009] which is an important KPI [Torrington, 2008] for HRM and recruiting.

Evaluation of Recruiting Activities

As the hiring process is among the most costly and time consuming processes in the domain of HR [Muenstermann et al., 2010], evaluation of the process and all its accompanying activities to deduct areas for improvement is a further important area in the context of recruiting [Fernández-Aráoz et al., 2009]. This is also underlined by the fact that an evaluation step is part of many recruiting processes described in literature [Fernández-Aráoz et al., 2009, Bogen and Rieke, 2018]. Thus, different performance indicators should be considered to measure the effectiveness and efficiency of the whole process as well as single steps. The performance of the recruiting process can be measured by process time, process cost, process quality, and stakeholder satisfaction [Laumer et al., 2014]. Analyzing the recruiting process can uncover areas with potential to lower process time and cost [Laumer et al., 2014]. However, also process quality and stakeholder satisfaction should be considered in the process evaluation.

Process cost, often measured as costs-per-hire, is widely considered to be among the most important areas companies try to improve on in the context of recruiting [Lang et al., 2011, bdu, 2021] and thus are a central measurement for the evaluation of the recruiting process. The process cost can be further broken down to single recruiting activities such as money spent on employer branding, recruiting events and job advertisements to attract candidates, as well as costs for the administrative process of management and selection of candidates [Laumer et al., 2014].

Regarding process time, an important indicator is the time-to-hire. This is the time from publishing a job advertisement to a candidate signing the contract [Lang et al., 2011]. A lower time-to-hire is preferable since the faster a company offers a job to the selected candidate, the more likely they accept it [Fernández-Aráoz et al., 2009] and thus this provides companies with a competitive advantage [Cappelli, 2001]. The time-to-hire can further be broken down into individual cycle times in each step of the recruiting process, i.e., how long does it take for a candidate to pass through one stage of the process. A stage is passed if the candidate advances to the next one or is rejected.

Further measurements do not regard cost nor time but the number of candidates passing through the recruiting process, i.e., how many candidates enter and pass each step [Torrington, 2008]. Especially the number of applications received is an important figure to determine whether the job advertising activities were targeted effectively and to ensure that the steps applicants need to take to submit their application and enter into the recruiting process do not present a barrier. Effective targeting is a major concern for many organizations when publishing their job advertisements [Lang et al., 2011]. Additionally, the number of candidates recruited as well as those remaining in the organization after several months are important indicators for the performance of the recruiting process [Torrington, 2008]. This metric is referred to as the before mentioned retention rate [Fernández-Aráoz et al., 2009].

2.3.2 The Recruiting Process

At the core of recruiting is a multi-stage process to attract, evaluate, and select a new employee from a pool of candidates (see e.g., [Bogen and Rieke, 2018, Cappelli, 2001, Lang et al., 2011, Lee, 2007]). Furthermore, the recruiting process can be seen as a decision process where two parties are making a decision. Hence, it is a two-way process. The recruiter is deciding which applicant they deem to be fitting best for the job, and the applicant is deciding whether they want to work for the company, the recruiting process of which they are currently going through [Torrington, 2008].

In literature different designs of the recruiting processes exist. Some start earlier by including the anticipation of the need for new employees and the specification of the job including the definition of its requirements [Fernández-Aráoz et al., 2009]. Others explicitly mention employer branding in the context of a candidate attraction step [Lang et al., 2011, Laumer et al., 2014]. Furthermore, the integration and onboarding of new employees can be found in existing research as a part at the end of the recruiting process [Fernández-Aráoz et al., 2009]. Common to all processes is the goal of attracting and finding the best fitting candidates and eventually getting them to join the company. When evaluating the fit of a person, both the person-job as well as the person-organization fit need to be considered. Person-job fit describes how well the skills and qualifications of an applicant meet the requirements of the position they are applying for. Person-organization fit refers to whether the values and the personality of the applicant are compatible with the organizational culture [Kristof-Brown, 2000]. Further literature suggests that, besides the fit of the candidate to the job and the organization, there is a third fit that should be considered. This is the fit between the candidate and their function in the team they will be working in [Torrington, 2008].

The large variety in conceptual recruiting processes in literature indicates a limited standardization of this process. This is also true in practice since there is little to no standardization of the recruiting processes across or even within companies [Laumer et al., 2014]. As there is no single, standardized recruiting process, we will examine different recruiting processes present in literature and deduce a process serving as the basis for the remainder of this thesis and the case study.

One version is the recruiting process outlined by [Bogen and Rieke, 2018] and called the “*hiring funnel*”. It starts with *sourcing*, followed by *screening* and *interviewing* and eventually a *selection* of one or even multiple applicants to whom a position is offered. Concluding, the whole process should be evaluated and reviewed. In the sourcing step information about job offerings are put out to reach interested people and attract candidates. The goal of this first step is to inform potential candidates about the job offering via various channels. In the next two steps, an increasingly thorough assessment of applicants is conducted with the goal of identifying those that are fitting well to the job, i.e., fulfilling the job requirements best and having a good overall fit with respect to the organization and its culture [Kristof-Brown, 2000]. In the last step the ones deemed best suited for the job will be selected and presented an offer. Already over 20 years ago,

researchers examining online and internet based recruiting mentioned a four step process with similar goals in each step, however the steps have been labeled slightly different [Cappelli, 2001].

[Fernández-Aráoz et al., 2009] describe a seven step process that covers further steps they deem relevant for recruiting. Their recruiting process starts with the *anticipation of the necessity for new hires* and the *specification of the job*. The next steps are the *development of a pool of candidates* and the *assessment of the candidates*, which leads to the selection of the candidate and *closing the deal*. After the deal closure step, this process includes two additional steps: The *onboarding of the new hire* and the *audit and review* of the process. Different to the hiring funnel mentioned before, the process starts earlier and also includes onboarding activities after the offer has been accepted by the candidate.

The recruiting process mentioned by [Laumer et al., 2009] consists of five steps which can be closely mapped to the ones of the hiring funnel of [Bogen and Rieke, 2018]. The first two steps are called *employer branding* and *candidate attraction*. This is followed by *applicant management*. After that, two steps, *pre-selection* and *selection*, are included representing different assessment activities. A final step called *hire* was added to this process in a later paper by [Laumer et al., 2014].

At the core, the recruiting processes presented above and across literature have many similarities, even though they are not standardized. They follow the steps of first informing and attracting candidates through some sort of (job) advertisement, employer branding measures and other activities on the job market to get candidates to apply for the job offering, followed by evaluating the candidates in a multi-stage process. This evaluation step is often split into two major stages: an initial screening and pre-selection and a more thorough assessment and final selection. The process is usually closed with a contract offering and signing step. Much other existing research is also confirming these steps as central for the recruiting process (see e.g. [Lang et al., 2011, Carroll et al., 1999, Torrington, 2008, Lang et al., 2011]).

Based on the aforementioned definitions of recruiting processes, we developed our own version of a four-step recruiting process which is depicted in Figure 2.1 and will serve as the guide rails for the process explored and discussed in the remainder of this thesis and the case study. Following [Bogen and Rieke, 2018] the process is represented as a multi-layered funnel to indicate that there is an ongoing selecting and filtering happening in order to narrow down the candidate pool. We call the first step *informing & attracting*, the second *screening & shortlisting*, the third *assessment & interview*, and the fourth *selection & job offer*. These basic steps also loosely resemble the ones presented by [Bogen and Rieke, 2018] (sourcing, screening, interviewing and selection). The importance of the evaluation of the recruiting process needs to be acknowledged and hence, similar to [Bogen and Rieke, 2018] and [Fernández-Aráoz et al., 2009], an ongoing evaluation activity, also described before in subsection 2.3.1, is added. The evaluation should be ongoing or revolving since usually there are always candidates in the recruiting process and thus improvements need to be done continuously. In the next section we will have a

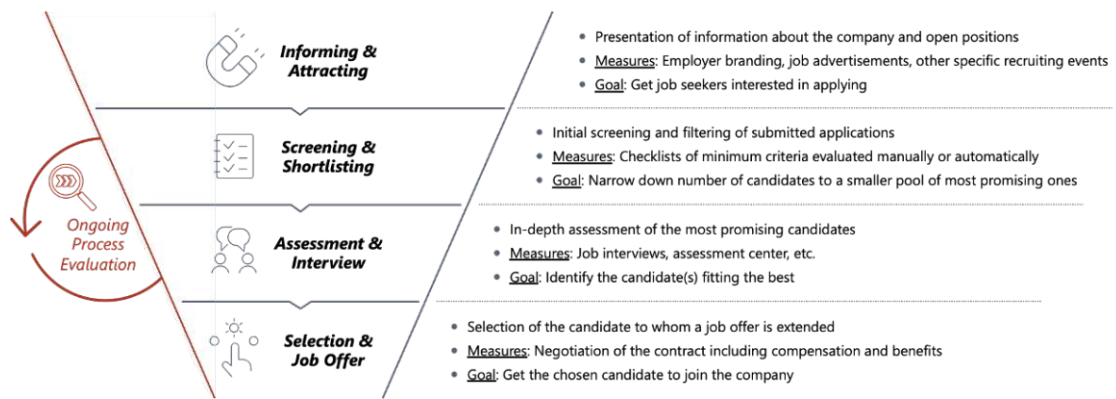


Figure 2.1: Four-step recruiting process following [Bogen and Rieke, 2018, p. 13]

closer look at the activities, events and interaction between recruiters and applicants in the individual steps of this process.

2.3.3 Activities and Interaction Along the Recruiting Process

Along the four steps of our recruiting process, different activities are carried out by the recruiting department and different forms of interaction between recruiters and candidates are applied. In the following, activities and goals of each step are described.

Informing & Attracting

During the first step, general information about the company and open positions are presented to potential candidates via different means [Laumer et al., 2009]. The goal of this step is first to get job seekers with the required skills and qualifications interested in the company and finally get them to apply [Torrington, 2008]. Thus, it is important to precisely target the job advertisement activities.

General information about the company as an employer falls in the area of employer branding activities. As mentioned before, the goal of employer branding is to develop a positive brand image and bring the company in an advantageous position on the job market by presenting it as a better place to work than alternatives a candidate might consider [Laumer et al., 2014, Backhaus and Tikoo, 2004, Sullivan, 2004]. Employer branding activities are mostly ongoing activities without a direct connection to a single job offering or a selected candidate or group of candidates.

Information about specific job offerings are often referred to as job advertisements or job postings. The content of these is based on the characteristics gathered while identifying the vacancy [Fernández-Aráoz et al., 2009]. Thus, job postings include the characteristics of the job, tasks that need to be conducted, required skills and qualifications, as well as benefits of the job [Torrington, 2008]. Traditionally, job offerings were posted in local and national press, specialist journals and on billboards or posters [Torrington, 2008].

With the rise of the Internet, additional ways to inform potential candidates about open positions emerged. Job offerings are nowadays published on the company's website, internet job boards and job portals [Torrington, 2008, Laumer et al., 2009].

Furthermore, information about the company and open jobs can also be distributed in person, for example at career fairs taking place at universities [Holm, 2012]. Universities and other institutions of (higher) education provide a source of talented, well educated young people looking for internships or entry level positions [Mihalcea, 2017]. Thus, many companies try to recruit new employees directly at the university. A prime way of getting in touch with students and distributing information to people to make them aware of the company as a potential employer is cooperating with lecturers or student clubs, and giving guest and practical lectures. This has the additional advantage that the target audience can be selected very precisely. For example, if one is looking for employees with a background in business informatics, chairs that are holding lectures allocated to this curriculum are the partner of choice. Activities at universities are often at the border between employer branding and job advertisement. On the one hand they aim at promoting the company as a good employer, on the other hand often specific job offerings are presented or exchanged during individual talks between recruiters and students.

Further ways of attracting people are recruiting agencies and consultancies, job centers, and word-of-mouth recommendation by existing employees [Torrington, 2008]. Bonuses for successfully referring a new employee are also commonly used to incentivize the workforce to inform their acquaintances about job offerings. The added benefit of employee referrals is that the personality and skills of the referred person are usually well known by the employee referring them. Thus, referred hires are usually better fitting and have a higher retention rate [Fernández-Aráoz et al., 2009].

The presented recruiting activities show that interaction and initiative is mostly taken by the company recruiting. Job seekers usually only react to the information and job advertisements published. One slight exception from this are speculative applications which should also be mentioned in this context. Speculative applications are applications that are not targeted to a specific job offering [Torrington, 2008]. In this case, the applicant often became aware of the company because of some information put out by the company, especially in the context of employer branding, making the candidate want to work there and thus handing in their speculative application.

Screening & Shortlisting

In this step, an initial assessment of the applicants is conducted. Since the main task of this step is to process and survey incoming applications, also the term application management can be found for this step in literature [Laumer et al., 2009, Laumer et al., 2014]. For being considered in this step, applicants need to submit their application including a resume and other documents such as their university or high school diploma and further references from previous work experiences [Laumer et al., 2009]. Submission

of these documents was previously done via letter mail but is nowadays usually done via e-mail or directly through any application form on the company's website [Laumer et al., 2009].

The goal of this step is to narrow down the pool of candidates that have handed in an application to a smaller number of most promising candidates [Bogen and Rieke, 2018]. Since the qualifications of an applicant are the major criterion here [Bogen and Rieke, 2018], the person-job fit is at the focus of this step [Kristof-Brown, 2000]. Minimum requirements need to be met by the applicant to be considered for the next step, which often are validated in a checklist-like fashion. A person expected to work in an international setting is for example expected to be fluent in English. Nowadays, for recording these facts, often application forms are used that have to be filled in the context of an online application. Since these forms provide a clear structure they are not only helpful in this step but also serve as a basis for the following interviews. [Torrington, 2008] suggest three approaches to develop a shortlist of candidates: First, using a panel of managers that follow a process to find a common shortlist; second, using a manual scoring system that awards points based on the facts stated on the CV of an applicant; and third, using software for fast and automated evaluation of the candidate. Automated systems to check the fit between job description and candidate profile are currently gaining importance [Bogen and Rieke, 2018]. These systems are also considered as online self-assessment tools [Laumer et al., 2009].

Depending on the position, research suggests that a pool of around ten candidates invited for the next step should be targeted [Fernández-Aráoz et al., 2009]. Only after shortlists have been developed, the recruiters inform the applicant whether or not they are moving forward in the process. Thus, in this step there is little to no direct interaction between the candidate and the recruiters. Best practices suggest that the screening process should be fast so that the applicant is informed swiftly and constructively about the outcome [Torrington, 2008] as candidates who are contacted in a shorter time frame are more likely to join the company after successfully passing the recruiting process [Fernández-Aráoz et al., 2009].

Assessment & Interview

Having narrowed down the pool of candidates to the most promising ones, an even more in depth assessment of the candidates is carried out with the goal to identify the candidate that is most fitting to the job and company. Different assessment methods might be applied in this step. Among the best known are classic interviews and assessment centers [Laumer et al., 2009, Torrington, 2008].

Job Interviews are used by nearly all organizations in this phase [Laumer et al., 2009]. One or (more commonly) multiple interviews with the applicant are conducted. Interviews aim at assessing the capabilities and skills of the candidate as well as getting to know the candidate in person to better determine their fit to the job and organization [Kristof-Brown, 2000]. Brain teasers, case studies, knowledge questions and likewise are

used. The goal is to assess how the candidate approaches problems and test whether they have the necessary skills to execute the job they have applied for. Furthermore, interviews play an important role in presenting the company to the candidate. The impressions the interviewers make on the interviewee have a large influence on whether the interviewee will accept a potential job offer [Torrington, 2008].

Assessment Centers are single- or multi-day events where candidates are invited for evaluation. Often they have to complete several tasks or tests alone or in a group. Recruiters observe the candidates and evaluate them based on how they approach and solve the tasks and act in a group. Other soft and hard skills are analyzed which are considered relevant for the position the participants of the assessment center have applied for [Torrington, 2008].

Further methods for evaluating a candidate who has passed an initial screening and has arrived on a shortlist exist, again with the goal to assess their fit to the job, to the function, and to the organization. These include knowledge tests, personality tests as well as assignments they should prepare for and present during an interview or in an assessment center, and also self- and peer-assessments [Torrington, 2008].

Selection & Job Offer

Based on the results of the previous *assessment & interview* step, the best fitting candidate is selected and the job is offered to them. A quick response is often considered as important, as good candidates usually apply for multiple positions and it is not uncommon for good candidates to receive multiple offers [Fernández-Aráoz et al., 2009]. It has been shown that candidates tend to accept offers which they have received in a shorter time frame after their final interview or assessment [Fernández-Aráoz et al., 2009]. Also, along with offering the job, there might be some form of negotiation about the compensation and other benefits. This is critical as a competitive salary and other added monetary and non-monetary benefits have an impact on whether the candidate takes the offer or opts for joining a competitor.

2.4 Digital Transformation in HRM and Recruiting

After exploring digital transformation as well as HRM and recruiting separately from a theoretical point of view, we will now turn our attention towards digital transformation in these domains. Again we start with an overview of the broad area of HRM and continue on with recruiting. For both areas the terms *electronic HRM* (or *e-HRM*) and *electronic recruiting* (or *e-recruiting*) have been coined and can be found throughout literature (e.g. [Bondarouk et al., 2016, Lang et al., 2011, Laumer et al., 2009, Holm, 2012, Bondarouk and Brewster, 2016]). Also, the phrases *digital HRM* [Strohmeier, 2020] and *digital recruiting* [Purvis, 2016] are used in this context.

2.4.1 Electronic HRM

Digital technologies and information systems supporting HR activities are already being widely used for supporting administrative tasks and streamlining processes in the Human Resource department [Eckhardt et al., 2014, Stetten et al., 2008]. E-HRM is applied in practice with the goal of transforming the HR department and improving decision making [Foster, 2011]. This gave rise to the field of e-HRM which was defined by [Bondarouk and Ruël, 2009] as:

“an umbrella term covering all possible integration mechanisms and contents between HRM and IT aiming at creating value within and across organizations for targeted employees and management” [Bondarouk and Ruël, 2009, p. 507].

This definition of e-HRM contains aspects also present in the definition of digital transformation by [Vial, 2019] presented in section 2.1. The definition mentions integration or combination of different mechanisms with the goal of improvement of an entity, in this case the organization, employees, and their management through the creation of value. Other definitions of e-HRM focus heavily on the usage of the Internet and web-technologies [Bondarouk and Brewster, 2016]. However, there are more digital technologies that are being used in the context of HRM than just the Internet and that are pushing the digital transformation in this domain (e.g., resume databases [Furtmueller et al., 2012], tools for automated decision making [Bogen and Rieke, 2018] and candidate relationship management systems). Additionally, a strategic dimension needs to be considered in the context of using digital technologies in HRM [Strohmeier, 2020].

Through the use of digital technologies, practices in HRM have changed [Bondarouk and Brewster, 2016]. Many companies acknowledge that the use of digital technologies in an HR context is a major challenge that needs to be addressed in order to survive in the long run [Lang et al., 2011]. Research also indicates the existence of challenges that need to be tackled regarding digital transformation in HRM [Bondarouk and Brewster, 2016] such as poor integration, lower quality and lack of standardization of data from the HR department [Lei and Jing, 2016]. However, digital technologies are also seen to provide new opportunities and benefits such as increases in efficiency and flexibility [Bondarouk and Brewster, 2016] especially in the area of recruiting [Lang et al., 2011] as presented in the next subsection.

2.4.2 Electronic Recruiting

E-recruiting is widely considered as one of the major parts of e-HRM [Simón and Esteves, 2015]. Research on e-recruiting started as early as the 1960s with investigating early uses of information technology in the domain of HRM [Rico, 1962]. Since then, research broadened with different focus points. New trends in recruiting are emerging continuously and lastingly shape recruiting activities [Dannhäuser, 2020]. Existing research on e-recruiting often focuses on different steps of the recruiting process or on

specific technologies. For example, resume databases see increased usage in the screening stage of the hiring funnel [Laumer et al., 2009, Furtmueller et al., 2012]. [Dalessandro, 2018] investigated how to reach a certain group (in this case millennials through digital means) in the initial *informing & attracting* phase. The use of artificial intelligence and automated or assisted decision making receives increasing attention in e-recruiting research [Bogen and Rieke, 2018, Meijerink et al., 2021]. Others analyze the influence of the use of mobile devices and differences in expectations of different generations towards the recruiting process [Maxl-Studler et al., 2021]. Further, influences on processes in HR through the use of information systems have been analyzed [Laumer et al., 2014, Eckhardt et al., 2014, Stetten et al., 2008] and research to identify reasons, drivers, challenges, and consequences of e-recruiting has been conducted [Lang et al., 2011].

The range of existing research has made it difficult to pin down a single definition of e-recruiting, but five different conceptualizations of e-recruiting exist in literature: e-recruiting as a 1) technology tool, 2) system, 3) process, 4) service, 5) proxy [Abia and Brown, 2020].

1. **E-recruiting as a technology tool** focuses on applying digitalization and automation to the recruiting process via technological means.
2. **E-recruiting as a system** has a broader perspective. The interaction between entities involved in the recruiting process supported by digital technologies is the key aspect in this case. This can thus be said to have a socio-technological perspective setting e-recruiting in the context of digital transformation [Strohmeier, 2020].
3. **E-recruiting as a process** puts the activities along the recruiting process in the focus. The activities can be supported by technology at different levels. Activities might be fully automated steps using artificial intelligence [Bogen and Rieke, 2018, Meijerink et al., 2021] or humans are supported in executing these activities through digital technologies [Laumer et al., 2009].
4. **E-recruiting as a service** focuses on the involvement of third parties in the recruiting process. In this concept, e-recruiting is facilitated through providers offering their digital services to both the candidates and the recruiters. These providers might include external recruiting agencies as well as online job boards and career networking portals [Torrington, 2008, Laumer et al., 2009].
5. **E-recruiting as proxy** sees IT-artefacts, such as a company's websites or a candidate's profiles on networking portals, as representations of the parties involved in a recruiting process. Thus, these IT-artefacts act as proxies in the interaction during the recruiting process instead of the actual parties.

These different conceptualizations of e-recruiting show its complexity. Technological innovation has further increased the complexity of the recruiting process [Laumer et al., 2014]. From these conceptualizations we can however also deduct a commonality: The use

of digital technologies in the recruiting process. According to [Holm, 2012], e-recruiting is referring to the use of internet-based recruiting sources and technology-enabled recruiting management practices. In practice, HR departments aim at improving their recruiting process through utilization of IT in combination with business process management aiming to reduce cost and time, as well as increase quality and satisfaction [Laumer et al., 2009, Laumer et al., 2014, Parry and Tyson, 2009]. Along the recruiting process, there are many different options for digitization and digitalization that are considered by practitioners, e.g., by automating certain processes or parts thereof [Weitzel et al., 2020]. In the *informing & attracting* step this regards new ways for attracting new personnel via job boards, social media or company websites [Lang et al., 2011, Dalessandro, 2018]. During the *screening & shortlisting* phase, the process can be supported through digital and automated applicant management and electronic assessment systems [Lang et al., 2011, Bogen and Rieke, 2018]. Typically, the next two phases *interview & assessment* and *selection & job offer* have been conducted with limited use of digital technologies before the Covid-19 pandemic. Especially interviews and assessment centers have been conducted in person [Torrington, 2008]. As this was not possible anymore in times of the Covid-19 pandemic, the situation called for using of digital alternatives.

The application of digital technologies and thus e-recruiting has significantly changed the traditional recruiting process [Holm, 2012]. It increases flexibility in both time and space as information can be exchanged between potential candidates and potential employers more flexibly and in many different and new ways. This leads to a shift in the process steps as a parallelization of activities has taken place and the focus of the activities has shifted towards communication and exchanging information between candidates and recruiters [Holm, 2012].

2.5 Research Gaps

In existing literature, research gaps have been identified that will be addressed in this master thesis. [Holm, 2012] sees gaps with respect to the impact of e-recruiting on the recruiting process. Also, conceptualization of e-recruiting is not understood sufficiently [Abia and Brown, 2020]. There are calls for further research on “HR in the digital age” in general (e.g. [Parry and Strohmeier, 2014]). [Varun Shenoy and Aithal, 2018] are asking for more research in specific parts of the hiring funnel (e.g., more research on digital advertisement [Dalessandro, 2018]). Also, the perspective of recruiters towards e-recruiting needs more attention [Wolfswinkel, 2009]. [Bondarouk and Brewster, 2016] see a necessity to investigate the content, design, implementation, interaction with the organizational context and the consequences of digital transformation in HRM.

Besides the research gaps mentioned across literature, a new topic has opened up. [Maxl-Studler et al., 2021] mentions, the consequences of the Covid-19 crisis for recruiting should be addressed in future research. The changes in everyday life due to necessary limits in social interaction and in-person contact obviously also impacted the recruiting process. New technologies arose aiming to support long distance recruiting activities.

As impact of these changes could not yet be analyzed in detail, this shows room for research in the application of digital technologies in the field of HRM and the recruiting process. For exploring complex phenomena such as e-recruiting and the digital transformation in recruiting, a case study is a well suited approach [Yin, 2014]. Additional insights from the recruiting practices are also necessary as research is often seen struggling to keep up with the status quo applied in recruiting [Holm, 2012]. This is especially true regarding changes induced by the Covid-19 pandemic that had to be rapidly applied. Analyzing a complete recruiting process from different perspectives, we will encounter several of the aforementioned aspects of digital technologies in recruiting in the case study of this master thesis. The use of digital technologies in the recruiting process of a modern consultancy on the constant search for new talented and highly qualified employees will be explored. The practical insights gathered will provide new empirical evidence that contribute to closing the research gaps mentioned above and serve as valuable input for further research. Additionally, the empirical evidence provides input on the requirements towards digital technologies supporting the recruiting process so that practitioners can use these to develop new software and tools fitting better to the wishes and needs of both recruiters and candidates.

Methodology

The central research questions of the master thesis will be approached qualitatively using a case study in a single case setting. Previous work has shown that this research method is applicable and is promising results in the domain of (digital) transformation and digitalization of recruiting processes [Stetten et al., 2008, Eckhardt et al., 2014]. Additionally, being a working student provides unique access to the recruiting department of an international mid-sized consulting company, presenting a special opportunity for research [Yin, 2014]. Semi-structured interviews with different groups of stakeholders involved in the recruiting process are the primary source of data. Interviewing different groups of people with different perspectives on the recruiting processes has the goal to minimize bias [Eisenhardt and Graebner, 2007]. Further documentation and key performance indicators regarding recruiting events and the recruiting process will be considered.

In the following, the methodology will be described. This chapter starts with information on the theoretical methodological background on case study research intertwined with its application in this master thesis. A dedicated section on semi-structured interviews is carved out, since this is the main source of data and thus should receive special attention. A section on further data sources consulted in this thesis concludes this chapter.

3.1 Case Study Approach

Case studies have been present in the domain of information systems research for many years and have been successfully applied to various topics with different research goals in mind. In about every fifth scholarly article within information systems research case studies are being used as the research method [Keutel et al., 2014]. Also, researchers apply case studies in the domain of HRM and recruiting underlining the applicability of this methodology in these domains (e.g., [Parry and Tyson, 2009, Holm, 2012]). Case studies are usually then applied when the boundaries between a complex phenomenon at

the focus of the research and the context in which it appears are not obvious [Yin, 2014]. Research applying case studies may focus on a single case (e.g., [Stetten et al., 2008]) or examine multiple cases. Usually a combination of different data sources including interviews, process descriptions, archives, observations and likewise producing qualitative as well as quantitative data is used for collecting empirical evidence [Eisenhardt, 1989]. Researchers are using case studies to build new theories, examine existing ones or describe phenomena experienced in practice [Eisenhardt, 1989]. This means case studies can be applied to inductive and deductive research alike. In the next section, exemplary research using case study approaches will be described briefly in order to demonstrate the applicability of this research method for answering the research questions of this master thesis.

3.1.1 Examples for Case Study Research

The existing work, presented in this subsection, gives a glimpse at the range of different domains case studies are used in and at various approaches applied. These papers are included here as they have been used as guidance in preparation for the case study. An extensive literature review on case studies in information systems research has been conducted by [Keutel et al., 2014].

- **Power, politics, and MIS implementation [Markus, 1983]**
In her paper, [Markus, 1983] is testing theories for user resistance towards information system implementation. Thus, this research can be considered to be an application of case studies for deductive research. [Lee, 1989] also mentions this paper as an example for well done single case research. [Markus, 1983] sets out three theories that are tested in a single company through different alteration in the organizational structure and tasks assigned to different people. Data are gathered by interviewing 30 employees as well as analyzing documentary evidence. With that, she achieves a good comparability of the different theories within the same company allowing her to deduce the one theory – that is interaction theory – explaining user resistance best.
- **Towards an understanding of the business value of business process standardization - a case study approach [Stetten et al., 2008]**
The authors are examining the transformation and standardization of the recruiting process of a multinational company in the manufacturing sector and aim at explaining the business value that is provided by the standardization of processes. They use a two-stage interview approach talking to two company representatives in semi-structured interviews first, followed by fully structured interviews one month later. Additionally, they analyze the process and its outcomes in its different transformation steps as well as observe how the transformation of this process took place. This allowed them to determine the increased business value the standardized process brought to the HR department in terms of reduced time and costs for an

application to be processed as well as qualitative improvement through streamlined applications and better hirings.

- **The transformation of people, processes, and IT in e-recruiting: Insights from an eight-year case study of a german media corporation [Eckhardt et al., 2014]**

The researchers of this paper accompanied the transformation of the e-recruiting process over eight years and interviewed two employees, who are closely involved in the daily recruiting business as well as the transformation of the process, every two years. They also include meeting documents, project descriptions, and training materials in their data pool. Based on the qualitative data gathered, they develop a transformation model for e-recruiting and uncover the implications of a digital transformation in the recruiting domain.

All three examples presented are using a single case research setting within one company. However, the approaches and goals vary widely. [Markus, 1983] is comparing different settings and interviews many different people to provide evidence for theories on user resistance. [Stetten et al., 2008] analyzes the business value of a standardized process over a relatively short period of two months, thus using a case study approach for describing a complex phenomenon. [Eckhardt et al., 2014] again build a model, a new theory, for transformation in the recruiting domain by accompanying the transformation process for multiple years. These three exemplary papers also represent the three different basic research goals for case studies, building theories, confirming theories and describing aspects of particular settings [Eisenhardt, 1989].

The presented examples from research demonstrate the applicability of case studies to the area of recruiting and answering the research questions of this master thesis. For this thesis, we analyze the recruiting process as has been done by [Stetten et al., 2008] and [Eckhardt et al., 2014]. Further, we interview a larger group of people to gain a wide range of qualitative data similar to [Markus, 1983]. All three presented papers use interviews in some form. Similar to [Stetten et al., 2008] we will be using semi-structured interviews as the core of data gathering.

3.1.2 Stepwise Approach to Case Studies

In line with the majority of case studies conducted, this thesis is using an inductive approach to answer the research questions by describing an existing phenomenon and trying to extend existing or build new theories. For that we will follow an eight-step process for case studies based inductive research described by [Eisenhardt, 1989]:

1. Getting Started

At the beginning of any case study the focus of the research effort and precise research question(s) should be defined in order to narrow down the topic. This is especially important in case studies as they are examining complex, not clearly

evident phenomena [Yin, 2014]. In this step, researchers lay the basis for selecting the right cases, and provide basic ideas and understanding for the data to be gathered.

Basic understanding of the research domain was gathered through an integrated literature review on the domains of digital transformation, HR, and recruiting. The results of which are presented in chapter 2.

2. Selecting the Case

As mentioned before, research using case studies might examine a single case or multiple cases. Since the goal of inductive research is building new theories, theoretical sampling is appropriate [Eisenhardt and Graebner, 2007]. Research based on a single case is usually conducted, when the case presents extreme conditions or the researchers have special access to conduct their research [Yin, 2014]. The latter is the case in this thesis. However, it should be mentioned that multiple cases allow for better comparability and generalizability of the cases and results [Eisenhardt and Graebner, 2007].

The selected case is the recruiting process of an international mid-size consultancy. This case is suited for a single case study setting since the author of this thesis, as a working student at this company, has special access for examining the recruiting processes [Yin, 2014]. A condition of the company was to not explicitly name the company, but consent was given to interview employees in the recruiting department as well as other employees involved in the recruiting process by conducting interviews, supporting recruiting efforts, and engaging in employer branding activities as well as using documentation describing the recruiting process and accompanying activities.

3. Crafting Instruments and Protocols

Different data collection methods need to be applied because various, usually both qualitative and quantitative, data sources are used in case study research. Qualitative methods, like interviews, questionnaires, and observation, are the most prominent methods in inductive case study research [Eisenhardt and Graebner, 2007]. These qualitative methods are usually aided by quantitative methods to numerically measure and analyse circumstances of the case. As [Eisenhardt, 1989] mentions, the instruments may change or are amended due to changing requirements or new data sources becoming evident during research.

The primary way of gathering data for this case study is conducting interviews. Since we interviewed different groups of people with different points of view on the recruiting process, different interview guides were drafted following [Kallio et al., 2016]. A detailed explanation of preparations, execution, and evaluation of the interviews is presented in section 3.2.

4. Entering the Field

Applying different research methods to collect data from different types of sources allows for verifying and substantiating the results through triangulation, i.e., testing

and proofing the result through comparing data from different sources. To allow for this, additional methods or data sources can be added. When conducting the actual data gathering, established data gathering methods should be used. A prime way for collecting rich qualitative data are interviews. However, interviews easily suffer from bias. Thus, bias mitigating methods should be applied and interviewees having different perspective on the topic should be selected [Eisenhardt and Graebner, 2007].

As mentioned, the primary source of data are interviews. The 15 persons interviewed can be split into three groups with different perspectives on the recruiting process. The first group consists of new hires. The second one is made up of consultants which are involved in the recruiting process by participating in recruiting activities and employer branding measures as well as interviewing applicants. The third group consists of employees working in the recruiting department. Thus, stakeholders with different perspectives on the recruiting process have been interviewed with the goal of reducing bias [Eisenhardt and Graebner, 2007]. Further process and event documentations and reports are analyzed and key performance indicators were provided by the recruiting department. Reports and statistics about the current economic circumstances surrounding the case are consulted as well. This additional information supports the description of the general setting of the case as well as aids in understanding and contextualizing the statements given by the interviewees. A more detailed overview of the additional data sources besides the interviews is presented in section 3.3.

5. Analyzing Data

Analyzing and gathering data is usually conducted simultaneously in case studies. First results may produce initial insight asking for an adjustment of the data collection methods. While analyzing the information gathered, the researchers aim at discovering patterns within the cases and, if it is a multi-case research, across the different cases. [Eisenhardt, 1989] presents strategies for detecting patterns in cases. For discovering patterns in interviews, established coding procedures are helpful and should be followed (e.g., [Miles and Huberman, 1994, Myers, 2019]). Similar to any other research, case studies must fulfil basic requirements not only but especially for data analysis. The results must be falsifiable, so someone else needs to be able to objectively check the results, logically consistent, and generalizable [Lee, 1989].

The interviews have been recorded, transcribed and coded individually with the goal of discovering patterns or recurring statements which indicate a high importance. Some adjustments to the interview guides have been made in between interviews. For example, the order of some questions has been swapped to improve the flow of the conversation and additional inquiries were noted down to check on especially important topics. For a detailed explanation, reference is made to section 3.2.

6. Shaping Hypothesis

In this step the results and deduced hypothesis are presented, usually in a narrative

way, aiming at answering the research question [Eisenhardt and Graebner, 2007]. Developing the hypothesis is an iterative process comparing the hypothesis to the data in order to find a theory that is supported well by the data and not contradicting it in any way. Making logical deduction from qualitative data is considered less easy than from quantitative data. For making deductions from quantitative data, algebraic rules may be applied. In qualitative research no defined rules for doing so exist, but formal logic applies the same. Thus, verbal proposition can be used to deduce hypothesis from the gathered data and with that provide reasoning [Lee, 1989].

The results are presented in a the upcoming chapter 4. A narrative approach is used addressing different aspects of the research questions first separately and eventually in combination as several aspects influence each other and thus need to be interpreted coherently.

7. **Enfolding Literature**

After having established the theories based on data from the case, existing literature needs to be examined in order to provide further support for the result. However, also contradictory existing research should be addressed.

In the *Discussion* (chapter 5), the results will be put into context with the literature examined in chapter 2 as well as limitations and implications for theory and practice will be presented.

8. **Reaching Closure**

Closing a case study should be done, if additional work, e.g., further cases or interviews, provide just limited additional insights.

Over the course of the interviews it became evident that similar points were made by the interviewees even across the three different groups. This indicated that additional interviews would only provide marginal added information for answering the research questions.

Even though the process described by [Eisenhardt, 1989] seems to be straight forward at first sight, different steps might be revisited. The initially defined research questions might be revised or new data sources or opportunities for data collection may arise requiring instruments to be adjusted or new ones to be added.

For this case study we started with interviews as the main data source. However, and as mentioned, additional data sources were added to the data pool. In particular, the process documentation and performance indicators of the recruiting process should be mentioned here.

3.2 **Semi-Structured Interviews**

To answer the research questions of this master thesis the main source of data used are semi-structured interviews for which participants from three groups with different

perspectives on the recruiting process have been selected. These are people who have recently joined the company, employees working in the recruiting department and other employees supporting in different recruiting activities but whose main job is in consulting. As the recruiting process and hence e-recruiting are highly complex matters [Laumer et al., 2014] and expectations and requirements are subjective, we chose for semi-structured interviews as opposed to fully structured interviews [Kallio et al., 2016] in order to allow for a high degree of freedom for the interviewees to answer to the questions and express their opinion on the topic.

3.2.1 Selection of the Interviewees

In every recruiting process, various groups of people are involved each with different perspectives, wishes, and focus points regarding the recruiting process. On the one side there is a company looking for new personnel and on the other side there are people looking for a place to work [Parry and Tyson, 2009, Torrington, 2008]. The company side often can be split up into further groups, which also applies in this particular case. On the company side, there is usually a department responsible for the overall organization of the recruiting process and for managing any recruiting related activities. In the consultancy subject to the case study, a dedicated recruiting department separate from the general HR department is handling these tasks. Besides the recruiting department, regular consultants are involved throughout the recruiting process. They assist in hosting recruiting events and other employer branding activities as well as support in the pre-selection and conduct interviews with candidates. How the responsibilities are split between those two groups will be detailed in chapter 4.

We aimed at interviewing an equal number of people from each of these three groups. We call the different groups as follows: The group of people looking for jobs are labeled as *applicants*, the group of employees working in the recruiting department as *recruiters* and the group of consultants supporting in recruiting activities as *consultants*. We interviewed five people allocated to the group of *applicants*. For our case study, these are new hires who have recently, in 2021 or later, joined the company as a consultant. We deliberately decided to interview persons who have already joined the company as they have a comprehensive picture of the recruiting process examined in the case study. This ensures that all persons interviewed have been involved in the same recruiting process and can answer to the interview questions with regard to this process. It should be noted that, as they have just recently joined, they are not involved in any recruiting activities to a large extent, which distinguishes them from the group of *consultants*. From the group of *recruiters* we interviewed four people and from the group of *consultants* six. However, one of the *consultants* (C-6) is an expert in the domain of HR, who has experience as the “Group Head of HR” of a different, even larger consultancy and thus also provided valuable insights from the HR perspective.

At the beginning of each interview, information to characterize the participants was collected. This information is detailed in Table 3.1. To ensure anonymity, the names of the participants are not mentioned. To identify and quote them in the following

ID	Location	Field of Study	Degree	Job Title	Work Experience	Age	Gender
A-1	Austria	Information Systems	M.Sc.	Consultant	1 year	27	female
A-2	Austria	Finance & Accounting	M.Sc.	Consultant	3 years	28	female
A-3	Austria	Strategy, Innovation and Management	M.Sc.	Consultant	3 years	26	female
A-4	Austria	Finance	M.Sc.	Consultant	1 year	26	female
A-5	Germany	Information Systems	M.Sc.	Consultant	2 years	27	female
C-1	Germany	Information Systems	M.A.	Manager	6 years	33	female
C-2	Austria	Project Management and Organization	M.A.	Manager	10 years	33	female
C-3	Germany	Information Systems	M.Sc.	Senior Manager	15 years	34	male
C-4	Austria	Financial and Actuarial Mathematics	M.Sc.	Manager	6 years	31	female
C-5	Austria	Management	M.Sc.	Manager	7 years	30	male
C-6	Austria	Business Administration	Magister	Senior Manager	10 years	38	male
R-1	Germany	Business Administration	M.Sc.	Expert Recruiting Management	2 years	27	female
R-2	Germany	Adult Education	M.A.	Senior Professional Employer Branding	3 years	26	male
R-3	Germany	Human Resource Management	M.Sc.	Expert Candidate Relationship Management	5 years	30	female
R-4	Germany	Political Science	M.Sc.	Expert Employer Branding	16 years	42	female

Table 3.1: Overview of participants

Gender	Female	11	≈	73 %
	Male	4	≈	27 %
Age	Average			30,53
	Standard Deviation			4,60
	Minimum			26
	Maximum			42
Location	Austria	8	≈	53 %
	Germany	7	≈	47 %

Table 3.2: Statistics of participant's data

ID	Count
A-1	3
A-2	5
A-3	30
A-4	5
A-5	10

Table 3.3: Count of applications handed in by *applicants*

chapters, IDs are assigned to each of them. The ID of a participant also indicates the group they are allocated to. *A-#* indicates the person is in the group of *applicants*, *C-#* indicates *consultants* and *R-#* indicates *recruiters*. Eight of the 15 interviewees are from Austria, the other seven from Germany. All *recruiters* who have been interviewed are from Germany. This is due to the fact that recruiting department is located at the headquarters in Germany. The recruiting process in Germany and Austria is identical and the same systems are used. Hence, interviewing employees from different countries and office locations does not entail any limitations. All participants have completed a course of study in higher education with a second-level degree like Master or Magister. A statistical overview of the sample group is provided in Table 3.2. For the group of *applicants*, the number of applications they have submitted over the last two years was gathered. This information is shown in Table 3.3. All of the participants in the group *applicants* have applied multiple times in the last two years which shows that they have experienced multiple recruiting processes which have been influenced by the Covid-19 pandemic and thus had to be conducted virtually.

3.2.2 Interview Guides

Interview guides to act as guard rails during the interviews have been developed following the framework of [Kallio et al., 2016]. The general outline of the interview guides follow the main research questions and detail questions were added to ensure all important aspects are touched on during the interview. For this we build on previous knowledge of the author [Kallio et al., 2016], who is involved in recruiting activities of the company, as well as the theoretic foundation developed in chapter 2. Semi-structured interviews allow the course of conversation to be more open and unrestricted so that the interviewees can talk freely. To aid mutual understanding, the interview guides are in German because the mother tongue of all interview participants is German.

As the two sides involved in recruiting process view it from different perspectives [Parry and Tyson, 2009], two separate interview guides were created. The interview guide for the group of *applicants* focuses on aspects of the candidate side of the recruiting process, including on their experience with digital technologies in the recruiting process especially during the last two pandemic years. The interview guide for the groups of *consultants* and *recruiters* additionally contains questions of strategic dimensions and company specific aspects. Both interview guides were piloted and adapted if necessary, e.g., if the order of the questions contradicted the natural flow in which the topics were touched on in the course of the conversation. The interviews guides can be found in the Appendix.

3.2.3 Conducting the Interviews

Statistics on the conduct of the interviews are displayed in Table 3.4. Four out of the 15 interviews were conducted in person, the other eleven online via zoom. The reason for conducting part of the interviews online was, as stated in Table 3.1, that some participants are not located in the Viennese office but in different offices in Germany. Zoom has been chosen as the videoconferencing tool for conducting the interviews as it was available free of charge and provided an easy way to record the interviews. All interviews have been recorded on two different devices in order to prevent loss of any recordings. Consent for recording the interviews was given by all participants. The interviews were held in a time-frame of approximately one month between 17.03.2022 and 22.04.2022 and lasted between 21 minutes and 49 minutes. It should be noted here, that the interviews with the group of *applicants* were shorter because the interview guide for this group had a different focus and did for example not cover company specific or strategic questions. All interviews were conducted in German as mentioned above.

3.2.4 Analysis of Interview Data

The recorded interviews were first transcribed and then coded. Since the focus was extracting central information and key statements, and not the way the participants spoke and expressed themselves, it was aimed for coherent and consistent sentences while transcribing. This means pauses, fillers and likewise were omitted and corrections during the speaking were merged in the transcription process. Nevertheless, colloquial language

ID	Mode	Date	Duration
A-1	in person	17.03.2022	25 min
A-2	in person	04.04.2022	21 min
A-3	online (zoom)	05.04.2022	29 min
A-4	online (zoom)	22.04.2022	21 min
A-5	online (zoom)	22.04.2022	22 min
C-1	online (zoom)	21.03.2022	38 min
C-2	online (zoom)	21.03.2022	31 min
C-3	online (zoom)	24.03.2022	43 min
C-4	online (zoom)	24.03.2022	37 min
C-5	in person	29.03.2022	49 min
C-6	online (zoom)	07.04.2022	38 min
R-1	online (zoom)	28.03.2022	36 min
R-2	online (zoom)	28.03.2022	39 min
R-3	online (zoom)	28.03.2022	42 min
R-4	in person	01.04.2022	38 min

Table 3.4: Overview of interviews

was not altered in order to keep the writing as close to the actual spoken sentence as possible. The transcripts were afterwards coded using Microsoft Excel. Qualitative data coding procedures have been followed [Miles and Huberman, 1994, Myers, 2019]. Since all interviews were carried out in German, also the coding was done in German. Only when explicitly using quotes in the remainder of this thesis the statements were translated to English as literal as possible. Translation was aided by using the online translation service [deepl.com](https://www.deepl.com)¹. The results produced by this service were reviewed and adjusted if the meaning of the quote had been distorted.

3.3 Further Data Sources

As stated by [Eisenhardt, 1989], multiple data sources should be used in case study research to add context and mitigate possible bias of the interviewees. First, we use existing research to verify our findings against and point out divergences that might also be interesting for future research to be analyzed. Second, we consult reports from national institutions such as the Austrian National Bank [Ragacs and Reiss, 2021] and

¹<https://www.deepl.com/translator>

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other major organizations with large influence on the economy such as Bank Austria [Dertning and Pudschedl, 2021].

Furthermore, company internal information, such as recruiting KPIs, will be explained in detail in subsection 4.2.2, and process documentation is analyzed as a basis for describing the recruiting process specific to the company. This information is available partly publicly on the career website and partly on the intranet of the analyzed company. As the internal documents contain sensitive information such as criteria for the candidate selection and candidate names, they cannot be made public to the readers of this thesis. Access to key performance indicators was granted to the author in order to provide quantitative data for describing the context of the case study. These additional data aim to contextualize and generalize the findings presented in the next chapter.

CHAPTER 4

Results

We arrived at the results presented in this chapter by mainly following the eight step processes described by [Eisenhardt, 1989] and outlined in chapter 3. The topic and research questions have been defined in chapter 1 and put into context of current research in chapter 2. Hence, the first step, *Getting Started*, is already completed. Also steps three through five, *Crafting Instruments and Protocols*, *Entering the Field* and *Analyzing Data*, have been visited in section 3.2 and section 3.3. Thus, this chapter will focus on describing the selected case, addressing step two, *Selecting the Case*, and presenting the results and deducing hypothesis completing step six, *Shaping Hypothesis*.

4.1 Introduction and Context of the Case

In this section, the context and circumstances of the case study are depicted. We start with a description of the specifics of the consultancy at the center of the case study and the particularities of the consulting sector. This is followed by further characterizing the interviewees including their attitude towards digital technologies, and their responsibilities and tasks in the recruiting process. Concluding, an overview of the current situation at the labor market is presented.

4.1.1 The Company

The company is an international consultancy specialized in the financial services sector. With about one thousand employees it is widely considered as mid-sized. Of these thousand employees about two thirds are active in the consulting business and one third is tasked with back-office activities.

A particularity of the company is a recruiting department which is not integrated in the HR department but completely independent. This also indicates the high importance of recruiting in the company as interview partner *R-1* stated: “Many companies have

integrated this [recruiting] process into the human resources department. We do not have that. We have an individual recruiting department that takes care of it and accordingly, the importance of recruiting activities is also very high.” Other interviewees made similar statements about the importance of recruiting in this company. A further reason for the importance of recruiting are the traditionally high staff turnover rates in the consulting industry. “Simply because of the high turnover in the consulting industry, every employee [...] is expected to be committed and to contribute” [C-4] to the recruiting effort. Due to the high staff turnover in the consulting industry [bdu, 2021], most of the recruiting activities are focused on attracting and hiring high potentials for consulting positions. Hence, the case study is also focusing on recruiting new consultants. The main pool of candidates are recent master graduates in the fields of economics, finance and management as well as natural sciences especially mathematics, informatics, and information systems.

A separate recruiting department and a high importance of recruiting activities which is stated by employees both from the group *recruiters* and the group of *consultants* underlines the suitability of this company for a case study examining the recruiting process.

4.1.2 Interview Participants

Having described the interviewees from a general perspective in subsection 3.2.1, their characteristics, which have specific relevance in the context of this case study, are described in the following. These include whether the participants are inherently positively or negatively attuned to digital transformation and digital technologies. This is to gain a baseline to which their statements can be contextualized to when it comes to digital transformation and the use of digital technologies in the context of recruiting. Further, their responsibilities in the recruiting process are outlined. Different interviewees are involved in different aspects of the recruiting process. Some, especially those from the recruiting department, i.e., the group of *recruiters*, are tasked with more administrative work, whereas others, mostly in the group of *consultants*, are more involved in the actual selection and hiring phases. However, as all employees are expected to contribute to the recruiting effort, there are also many tasks that are carried out by members of both groups together.

Attitude towards Digital Technologies

Most of the interviewees describe their attitude towards digital technologies as positive and do not see a difference in this regard between their work and private life. Only one interviewee R-4 described herself as a “late mover” when it comes to using digital technologies. All others mentioned that they are quite open to using new technologies, in the personal life as well as in the working environment. Still, there was a slight tendency towards being more open in the working environment by some of the interviewees as they have a better support there, and see a higher necessity and more advantages in using new technologies at work.

ID	Key words (taken directly from the statements)	Recruiting process phase
C-1	Interviewer	Assessment & Interview
C-2	Interviews	Assessment & Interview
C-3	Internship management, job postings, interviews, approving contracts, support recruiting efforts	Informing & Attracting, Assessment & Interview, Selection & Job Offer
C-4	Pre-selection, interviews, acceptances for approval, inform them of the acceptance or rejection	Screening & Shortlisting, Assessment & Interview, Selection & Job Offer
C-5	Recruiting events, interviewer, offer	Informing & Attracting, Assessment & Interview, Selection & Job Offer
C-6	Interviews, makes the decision	Assessment & Interview, Selection & Job Offer
R-1	Job advertisement, present the company's employee brand, marketing measures	Informing & Attracting
R-2	University marketing, employer branding, (recruiting) events	Informing & Attracting
R-3	Employer branding, pre-screening, accompany the candidate end-to-end in the process	Informing & Attracting, Screening & Shortlisting
R-4	Candidate Relationship Management, retention measures, events	Informing & Attracting

Table 4.1: Responsibilities and involvement in the recruiting processes of the interviewees in the groups *consultants* and *recruiters*

Responsibilities

Table 4.1 gives an overview of the tasks of each participant as stated by them during the interview. The keywords stated in this table were extracted from the participants' statements regarding their responsibilities and tasks in the recruiting process. A complete and detailed list of these statements can be found in Table A1 in the Appendix. Further, the involvement of the interviewees was matched with the four phases of the recruiting process described from a theoretical point of view in subsection 2.3.2.

The persons interviewed are involved throughout all four phases of the recruiting process. The *recruiters* are mainly tasked with administrative, back-office activities while also being in direct contact with potential candidates and applicants during recruiting events

like workshops, job fairs and likewise. According to their answers, they are responsible for steps in the early stages of the recruiting process, especially the *Informing & Attracting* phase. They organize recruiting events at universities or public job fairs and coordinate employer branding activities. However, their involvement is not limited to the first step, as they also act as contact persons for candidates during the complete recruiting process. They are further responsible for a first screening of applications which can also be seen in the process documentation. This means, they also take over tasks from the *Screening & Shortlisting* phase. Thus, their main area of responsibility lies in the two early steps of the recruiting process. The *consultants* on the other hand predominantly take on tasks from the two later steps of the recruiting process (*Assessment & Interview* and *Selection & Job Offer*), as they are conducting the actual job interviews and are tasked with communicating the decision to the candidate. “I am then assigned interviews [...] and inform them of the acceptance or rejection” said *C-4*. More on the specific recruiting process of the company at the center of this thesis can be found in section 4.2.

Although both groups have specific focus points in the recruiting process, they support each other intensely. *C-1* stated “I support our internal department”. This is especially true when it comes to recruiting events in which the *consultants* are almost always participating in. They are sometimes even taking over the organization of such events. *C-5* mentioned that his tasks include “the implementation of [recruiting] events and attendance at job fairs” and *C-3* added that “of course, what we also do on the side is support recruiting efforts like job fairs”. Similarly, the *recruiters* are also integrated in the later stages of the recruiting process. They “accompany the candidate end-to-end in the process and [...], if necessary, insert another recruiting interview” [*R-3*].

To summarize, both the participants allocated to the group of *recruiters* and those allocated to the group of *consultants* are heavily involved with recruiting activities. Still, they have different focus points and responsibilities which entails that selected interviewees provide a broad view across the recruiting process as a whole as well as deep insight into specific aspects thereof.

4.1.3 Current Situation on the Labor Market

There are two major factors that influence the situation on the labour market, each of which brings its own challenges and opportunities. The first factor is the Covid-19 pandemic which, due to the necessary precautionary measures, has altered the every day life as well as has had a severe impact on economies across the world which also became visible in the Austrian labour market [Ragacs and Reiss, 2021, Dertning and Pudschedl, 2021]. The second factor is increasing competition amongst employers for highly qualified personnel which leads to the job market switching from an employer to an employee market. We will analyze these two factors in detail in the next two subsections. Additionally, we will provide insight regarding the particularities of the consulting sector with respect to recruiting.

Influences of the Covid-19 Pandemic

The high and prevailing uncertainty in 2020, when little was known about the illness and the effects of necessary precautionary measures on the world-wide economy, has led many companies to suspend hiring. According to a report published by the Austrian National Bank the employment drop in Austria was more significant than the one induced by the Great Recession in 2009 [Ragacs and Reiss, 2021]. A high level in short-time work (30% of all employees) helped to prevent higher unemployment numbers. The impact of social distancing measures on the labor market varied largely between sectors [Dertning and Pudschedl, 2021].

However, the company at focus of this thesis did not make use of any short-time work nor did they reduce the number of employees. After an initial hiring stop, increasing the number of new hires and growing the workforce, especially in the consulting domain, became and continues to be the goal. This is an important factor for this case study as this means recruiting under social distancing measures was necessary in at least the same intensity as it was before the Covid-19 pandemic.

War for Talent

“The war for talent is over, talent has won” is the prevailing tenor in the press [Kelleher, 2019, Slater, 2022] and was even stated by interviewee *C-6*. What is meant with this is nothing less than that the labour market has switched from an employer market to an employee market. This impact of the war for talent on the labor market is also acknowledged by the interview participants of this case study: “This has changed more and more from an employer market to an employee market. We used to be able to choose the applicants, and now it’s more the other way around; we apply to the applicants as an employer and also look at how we can position ourselves well, what offers and benefits we can also bring to the table so that we are selected as an employer”, explained *R-4*. Highly qualified candidates – the ones the company at the focus of this case study is targeting – have now more choices where they want to work than ever before. They can often pick and choose from different offers. In order to convince an applicant to decide in favor of the own company, many different measures are taken ranging from additional benefits to highly competitive salaries for entry level positions, and highly individualized contracts. “You always hear that many companies advertise with higher salaries on the one hand and better goodies on the other” [*C-2*]. Better monetary and non-monetary compensation is just one way companies combat the war for talents. Further actions are taken in the earlier phases of the recruiting process. Different interviewees mentioned that job advertisement campaigns and employer branding activities are targeted more specifically and the recruiting budget is increased. Candidate relationship management receives increasing attention. Also, internship limitations are reduced and recruiting processes are shrunk to lower the administrative barriers for someone to apply. This is all deemed necessary by the recruiting department as the company operates “in an industry, in management consulting, where there is a lot of competition. [...] We are

looking for a very specific target group, and that is why developments such as the ‘war for talent’ [...] are probably the biggest influencing factor” [R-2].

Importance of Recruiting in the Consulting Industry

Additionally, the particularities of the consulting industry regarding recruiting and their activities on the labor market should be pointed out. It is not uncommon for consulting companies to have a high fluctuation rate. Recent studies show a fluctuation rate of about 13% [bdu, 2021]. “As a management consultancy, you typically have a higher turnover rate than in other companies. Even though we [...] actually have a significantly lower fluctuation rate than our competitors, recruiting has always been an important factor and is becoming increasingly important at the moment, as the last two years show”, said [C-3]. This entails that there is also a constant need for new hires, which is underlined by the fact that, due to permanent project work, there are no fixed positions in an organizational hierarchy which need to be filled. Rather, the number of employees determines how many projects a consultancy can take on at a time. Thus, one of the main levers for any consultancy which influences how much turnover it can make in one year is the number of consultants it employs – together with the daily rates billed to the clients. (This is besides other external factors, like market size and competition, which have an influence on the turnover.) With that in mind, it comes as no surprise that recruiting has a high significance in any consultancy and also in the one analyzed in this case study: “A very very high significance. After all, that’s the safeguarding of our resources. And without resources, the company does not exist”, stated [C-2] when asked about the importance of recruiting in the company. Thus, it is also typical in this sector to have high recruiting budgets as a new hire costs a company more than 10 000 Euros in recruiting costs [bdu, 2021]. This is also the reason why one of the measures employed by the company to counteract the current (and previously described) situation on the labor market is increasing the recruiting budget and other (human) resources for the recruiting process.

4.2 The Recruiting Process

Having described the company at the center of the case study, the interviewees and the situation on the labour market, we will focus on the specific company’s recruiting process in this section. In addition to the statements of the interviewees, further data sources are used for describing the recruiting process, including officially published information on the company’s career website as well as internal documentations. This section starts with a general description of the recruiting process from the different perspectives and continues with an examination of changes that have been introduced as a result of the Covid-19 pandemic and concludes with the changes the interviewees expect to occur in the future reshaping the recruiting process anew.

Also, for describing the recruiting process we will pick up on the duality of the people involved [Torrington, 2008, Parry and Tyson, 2009]. Candidates have a different perspec-

tive on the recruiting process than the company does, which also becomes visible in the differing descriptions of the recruiting process found on the career website targeted at people interested in applying and on the intranet serving procedural information to the persons involved in recruiting on the company side. The one on the career website focuses on the steps that need to be taken by the applicant whilst also including some background information to let them know what is happening behind the curtain on the company side. The description on the company's intranet is much more detailed and includes instructions on how to work with the candidate management system or communicate with the candidates, defines the criteria for the screening of incoming applications and the evaluation of a candidate in the interviews, and lists responsibilities during the different steps. The steps of the recruiting process mentioned by the members of the different groups interviewed differ accordingly. Thus, we will describe the recruiting process from the perspective of candidates and from the perspective of the company separately before combining them into a holistic and coherent process.

According to the career website, the total duration of the recruiting process lies between four to six weeks. One interviewee, *C-2*, even stated a short process time of only three weeks. If wished or necessary, it is possible to pass through the complete process without having any physical contact with the company as stated by one of the *recruiters [R-2]*: “At my current job, before I signed my contract of employment, I never saw any of my colleagues in real life.” For more on the technologies employed that allow for such a fully virtual recruiting process, reference is made to section 4.4. The following descriptions deliberately omit specific details on the technologies as the focus in this chapter lays on the process as such.

4.2.1 Recruiting Process from the Candidates' Perspective

As mentioned, the information regarding the recruiting process presented on the career website is targeted towards persons willing to apply. Thus, this information presents the ideal starting point for describing the recruiting process from the candidates' perspective. Further, this section will consider the statements from the interviewees in the group of *applicants*.

1. Online application

Any application has to be handed in via the online application form, which can be opened directly from any job posting on the career website. There are two ways an application can be submitted. The applicant has the choice to create a profile while submitting their application or to continue without one. If they decide to create a profile, they are given the possibility to track the status of their application in a special area of the candidate relationship management tool as well as save their application before submitting so that they can continue later. Without a profile, they have to submit all necessary information at once and do not have the possibility to follow the status of their application online. In any case, basic personal information such as name, e-mail address, country of residence

have to be submitted. Further data regarding their motivation for applying to the selected position, earliest starting date, and preferred office location is collected. The possibility for adding an additional comment is given. A CV needs to be uploaded, which is the only mandatory document; the CV being the only required document and no letter of motivation being needed is an example for lowering the barriers for submitting an application. Additional upload options for a cover letter and further documents such as letters of reference, certificates or likewise, however, do exist. Lastly, the applicant needs to accept the mandatory privacy statement to comply with the General Data Protection Regulation and enter string of letters to proof they are not a robot.

2. **Screening**

This step does not entail any tasks for the candidate. All documents being submitted successfully, they receive a confirmation of receipt. Only after the documents have undergone a screening, the candidate will be informed via e-mail on whether their application meets the required criteria and, if this is the case, that they are invited to an interview.

3. **Interview**

For most candidates, the interview step starts with a phone interview with an employee from the recruiting department in order to see if the basics fit. If both sides are satisfied, case interviews are arranged. In these two (for interns) or three (for regular hires) interviews, the candidate talks to senior colleagues employed as consultants. During the interviews the candidate, has to solve case studies and their fitting to the company is at the focus of attention. They have furthermore the chance to ask questions about the working environment and culture so that they can form their own opinion on whether they can imagine themselves working at the company.

4. **Decision**

The decision is communicated to the candidate at latest two weeks after the last interview has taken place. Usually this period is shorter, often one or two days after the last interview.

5. **Contract offer**

In case of a positive decision the candidate is presented a job offer and is given two weeks time to review and clarify any questions they might have.

6. **Signing the contract**

With sending the signed contract back to the company, the recruiting process is completed and the onboarding phase starts, which lays in the responsibility of the human resource department.

In contrast to the recruiting process outlined in subsection 2.3.2, the process described on the career website starts with the submission of the application documents. As the

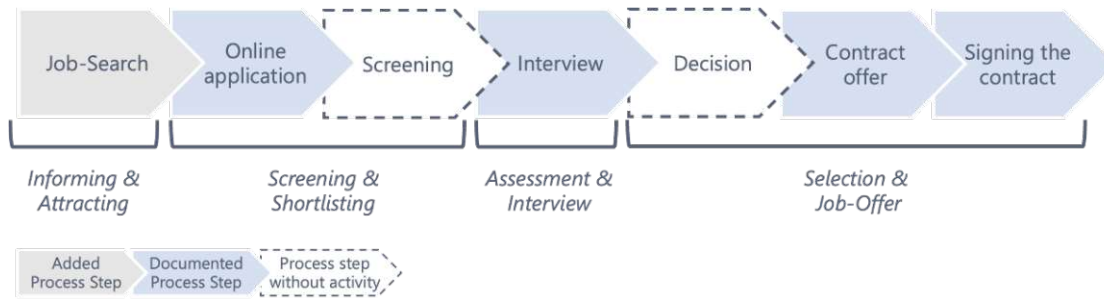


Figure 4.1: The recruiting process from the candidates' perspective of candidates

candidate is already on the career website and is actively looking for instruction on how to apply, the goals of the first phase *Informing & Attracting* have already been reached. However, four out of five interviewees in the group of *applicants* also included job-search as a first step in their description of the recruiting process even before the definition of the recruiting process (as developed in subsection 2.3.2) was presented to them. This indicates that the *applicants* see the *Informing & Attracting* phase as part of the recruiting process as well. Besides the online search on career websites and job portals, “recommendations from friends [...] as to which companies might be a good fit” [A-5] are mentioned as a source of information when looking for jobs. When describing the recruiting process no one has mentioned recruiting events. However, when asked about which recruiting events they knew, a wide range of answers was given, showing that recruiting events and employer branding efforts are not naturally considered part of the recruiting process by the interviewed *applicants* whilst the active job search is. Rephrasing this, for the *applicants* the recruiting process starts only as they get active.

Summarizing the process description and statements from the interview participants from the group of *applicants*, we visualize the recruiting process from this perspective in Figure 4.1. The recruiting process shows all steps described on the career website as well as those mentioned in the interviews. We color-coded the steps to add semantics. The gray step, called “Job-Search”, was added based on statements of the interviewees. The name of this step was chosen to indicate that this is a step in which the candidate is active, since the statements of interviewees from the group of *applicants* implied that for them, the recruiting process only commences when they actively start searching for jobs. White steps with dotted borders indicate steps where no direct action is required by the candidate. During these steps, the candidate has to wait for the communication of the decision; first whether they have passed the screening and are invited to an interview and second, whether they have convinced during the interviews and will receive an offer. Further, we matched the steps outlined before to the stages of the recruiting process explored from a theoretical perspective in subsection 2.3.2.

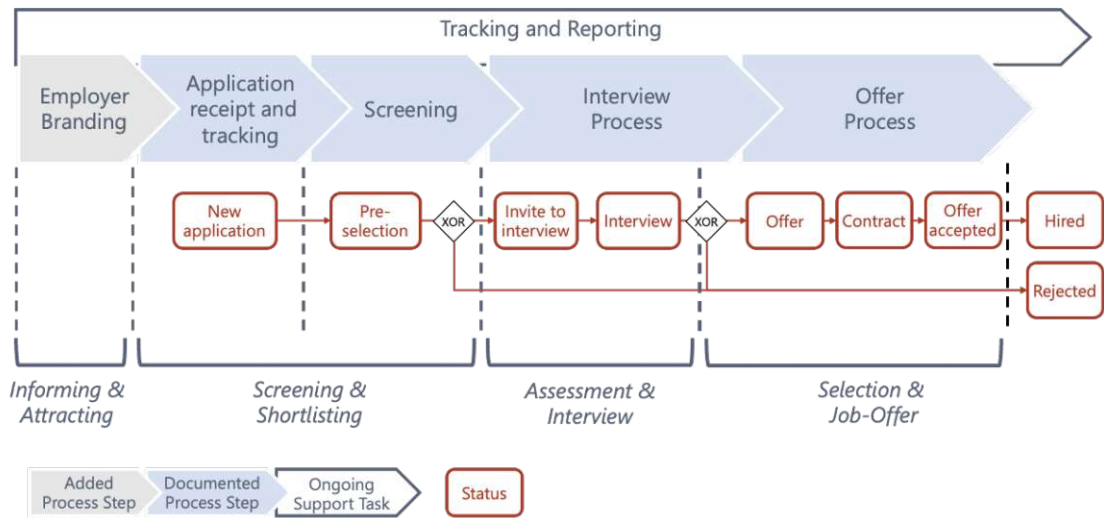


Figure 4.2: The recruiting process from the perspective of the company including the status of a candidate in the different steps

4.2.2 Recruiting Process from the Company's Perspective

The description of the recruiting process from the company's point of view generally follows the same steps just described. However, we will more closely focus on the decisions taken and persons involved. The steps described next follow the internal documentation of the process available on the company's intranet. The whole recruiting process and the flow of applications through this process are managed using a candidate management system. This system uses a so called "talent pipeline" to track the progression of a candidate in the process using different status, which will be mentioned during the description of the process and are included in the graphical representation of the process in Figure 4.2.

1. Application receipt and tracking

Applications are entered into the candidate management system via the application form on the career website and with that a candidate enters the "talent pipeline". Employees can also recommend candidates as part of a referral program. However, the official application needs to be uploaded via the career platform in any case. A significant reason for this are data protection regulation requiring the candidate to actively consent to the processing of their personal data. All "applications are submitted online [...]". This has to be the case, if only for privacy reasons, so even in the case of contacts that were made in advance" [C-1]. Similar statements were made by R-2 and R-4. In this step the status of the candidate is *new application*. Also, an initial screening by the recruiting department is conducted to check whether all required documents have been uploaded and whether basic criteria for the offered position are fulfilled. Additional documents or information might be requested.

2. Screening

In the screening step, members of the specialist departments are informed via email about new applications which they have to screen and then decide whether the candidate is rejected or invited to the interviews. These employees are working as consultants and are responsible for the allocation of consultants to the different projects. They may forward the application to other members of the specialist department in case they wish a second opinion. Two interview participants explicitly mentioned that this is part of their tasks in the recruiting process. *C-3* stated, he is “responsible for internship management at our company since 2015”, meaning he screens the applications for internships as well as takes care of the staffing of interns to projects, and *C-4* told: “I receive applications [...] which I then sift through to see whether they go through to the pre-selection stage for the interview”. All but one (*R-4*) of the interviewees in the groups of *recruiters* and *consultants* mentioned this screening activity in their description of the recruiting process. Obviously, in this step mainly hard-facts “e.g., grade point average, highest level of school completed or previous experience in consulting, etc.” [*C-6*] are considered. During the screening step, the status of the candidate is *pre-selection*. The screening step might have two outcomes: Either the candidate moves to the status *rejected* or to *invite to interview*.

3. Interview Process

If the candidate is in the status *invite to interview* they are sent an email to coordinate appointments for the interviews. “In this next step, the candidate would then get into another status, which is then called *interview*” [*R-3*]. For fixed hires there are three interviews, two of which are conducted by senior employees (i.e., Manager or Senior Manager) and one by a partner. The goal of the interviews is to assess the candidate’s abilities and their fitting to the company. Both soft and hard skills are evaluated during the interviews. Usually, case studies are used to examine how the candidates approach typical questions that they might encounter when working as a consultant, their logical thinking as well as their domain knowledge. Equally important as the candidate’s performance in the case is their cultural fit. One interviewee [*C-6*] mentioned the following rule of thumb he uses to evaluate their fit to the company: “There’s the so-called ‘airport test’: Can I imagine being stranded at an airport with this candidate for five, six, seven hours and would we have something to talk about in that time, or would that just be tedious.” This shows good company culture being valued very highly and hence cultural fit being an essential criterion. Thus, all interviewers have to give their approval. “If even one person has doubts, then we do not take the candidate. It must be an unanimous decision that someone fits in with us”, said [*C-5*]. If one of the interviewers was not convinced, the candidate is *rejected*, else the offer process starts.

4. Offer Process

The first status in this phase is *offer*. The candidate receives an offer and has the option to clarify any questions they might have as well as negotiate the terms of

the contract within a time period of two weeks. As soon as every question has been answered and the terms of the contract have been agreed on, the candidate receives a final version contract to review. Now the candidate is in the status *contract*. The contact is sent to the applicant by postal services as well as by e-mail. In most cases, the candidate signs the contract, returns it and with that moves to the status *offer accepted*. As soon as all other paperwork has been completed, they move to the status *hired*. From here on, the recruiting department is no longer responsible for the candidate as the onboarding process is handled by the HR department.

5. Tracking and Reporting

As mentioned, for tracking the candidates' status a candidate management system is used. These status are furthermore used for evaluation purposes, as they represent the recruiting funnel. The recruiting funnel in the reporting tool is following the presented status but has a lower granularity summarizing some status into different stages. For each stage the reporting tool lists the number of persons that have reached this stage at some point within a time frame selected by the user. This time frame can either be a full year, a calendar quarter or a specific month. Multiple selections are also possible. The funnel here has five stages: (1) *Applications*, that is the count of received applications; (2) *Forwarded*, that is the count of applications that have passed the initial screening and have been invited to interviews; (3) *Interviews*, that is the count of persons with which the interviews have already taken place; (4) *Offers* includes all those who have received an offer; and (5) *Hired* are those that have accepted the offer and signed a contract. Further, there is an analysis of when candidates withdrew from the application process. Here, additional stages in between those five mentioned before are available to more precisely note the point in the recruiting process when the withdrawal has happened. This also reflects the process steps where a candidate has no activity, but still can stop their application. Thus, in the withdrawal analysis additional categories *After Application*, *During Interview*, and *After Offer* are used.

Starting from the recruiting funnel and its defined stages, the reporting tool offers a wide range of additional filtering and slicing options to drill in on specific areas, e.g., according to the organizations department, skill profiles, targeted entry level, country, and also gender of the candidates. Preconfigured yearly overviews are showing the number of candidates entering each stage per month. For better comparability, the numbers are usually also available as percentages of all hires in the selected time frame. There are more detailed views for the interview part of process as all information from the three interviews are recorded separately. As for each candidate the exact dates of submitting the application and progressing through the stages are recorded, total processing times can be viewed, which are in line with the stated three to six weeks.

To get a better idea of the numbers handled in the recruiting process we provide rounded figures as the company requested that no precise figures are stated. More than 2000 persons have submitted an application in 2021, thereof about 440 persons

(~22% of all applicants) have been interviewed. Little less than half (~200; ~10% of all applicants) of those interviewed have also received an offer and again about 65% (~130; ~7% of all applicants) of them have been hired, i.e., signed the contract. The numbers for female and male hires are about one to three – for each female candidate in each stage there are three male candidates. This can be attributed to the specific field the company is operating in. Study programs focusing on subjects required for financial services, such as mathematics, economics, and also IT; are still predominantly attended by male students [Sta, 2022], however there are huge efforts to increase the quota of female employees in this company, but not in focus here.

The recruiting process from the company’s perspective is visualized and mapped to the phases outlined in the theoretical background (see subsection 2.3.2) in Figure 4.2. The status a candidate can be in are depicted as well as the decision points where the company decides whether a candidate is moving forward in the process or is *rejected*. Obviously, a candidate has the possibility to exit the recruiting process at any time as can be seen in the withdrawal analysis. The steps, as documented, are depicted and again an additional step, *Employer Branding*, was added at the beginning based on the statements of the interviewees describing the recruiting process from the company’s perspective. *R-2* described: “It starts up front with pure marketing efforts, where it’s simply a matter of dropping and placing the employer brand.” Many different measures are employed here and various activities are conducted with the goal “that students and potential future employees are initially made aware of the company” [C-4]. There is a consensus among the interviewees that the employer branding and recruiting activities are part of the recruiting process, which is also in line with the theoretical description of the recruiting process found in literature (e.g., [Bogen and Rieke, 2018, Lang et al., 2011, Laumer et al., 2009, Laumer et al., 2014]) and described in subsection 2.3.2.

We are going to compare and map the processes from the company’s and the candidates’ perspective in the upcoming section in order to develop a model of a holistic and coherent recruiting process.

4.2.3 Holistic Recruiting Process

Combining the two perspectives on the recruiting process described before, we arrive at a process where the active part jumps back and forth between the candidate and the company or both counterparts are equally and simultaneously involved. This is depicted in Figure 4.3. The support task of *tracking and reporting* is omitted in this graphic in favor of clarity. Additionally, we show the communication between the two counterparts by stating the information exchanged between them and the main direction the information flows in. From the perspective of the *applicants*, we have seen that they are not actively involved in each and every step and also perceive the steps differently (see also Figure 4.1).

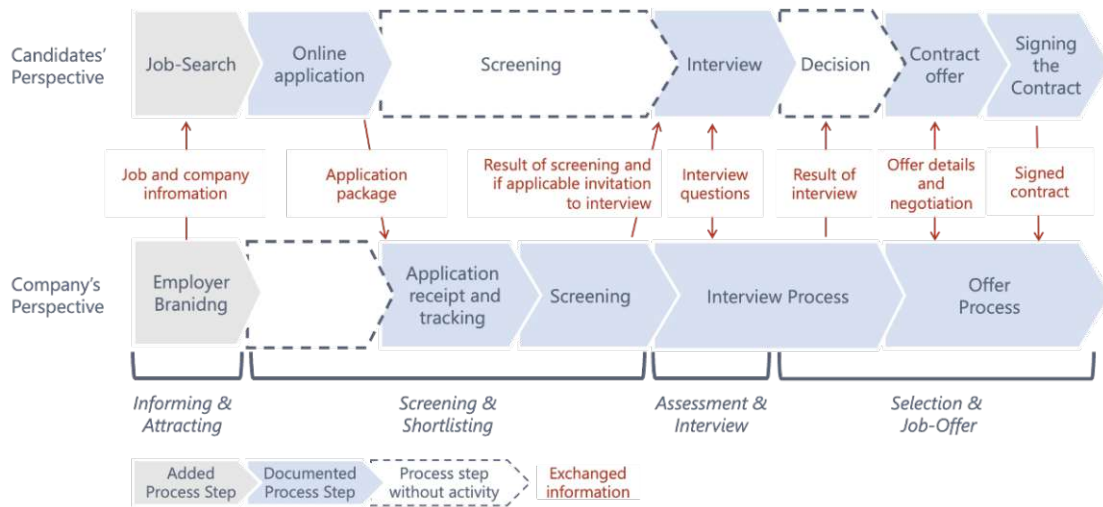


Figure 4.3: Holistic view of the recruiting process including communications between applicant and company

Communications & Exchanged Information

In the *informing & attracting* phase, the company presents its employer brand and job postings to a broad range of potential candidates. The candidates take in this information to inform themselves about possible job openings. “I personally just look around on the Internet, search for jobs, then come across a job posting that I find quite exciting” said C-3, indicating that they are not limited to a single company during this phase.

In the *screening & shortlisting*, phase a candidate first has to submit all necessary information via the online application form. The company’s activities are limited to providing the platform via which the applicant submits their documents. Submitting the application packages with a CV, references, and certificates is usually the first time candidates actively provide information about themselves to the company. This is disregarding the rare case that for some more exclusive recruiting events also applications might need to be handed in in order to participate. Now the applicant has to wait until the result of the screening of their documents is communicated to them. If the application passes the screening process an invitation for an interview is included.

The closest interaction between the company and the candidate happens in the *assessment & interview* phase. During the interviews, the candidate talks directly to employees of the company and questions are exchanged and answered by both parties to determine whether the candidate fits to the company and the job and vice versa.

Afterwards, as the first communication in the *selection & job-offer* phase, the candidate is informed about the decision on whether an offer is extended. Now the offer details are communicated and negotiations regarding the contract take place. Eventually, in the case the candidate decided to join the company, they sign the contract and return it.

Added Process Steps in the *Informing & Attracting* Phase

As explored before, the process description on the career website and the intranet both do not include the *informing & attracting* phase mentioned in the theoretical model. However, eleven of the 15 interviewees mentioned some employer branding or marketing measures as part of the recruiting process. All others agreed that this is part of the recruiting process after they had been given the definition of the recruiting process from subsection 2.3.2. This divergence between the documentation of the process and how the people involved describe the process might be explained by first the point in time when the documentation of the process is expected to be consulted and second by the heterogeneity of the measures during the *informing & attracting* phase. Regarding the point in time, it can be assumed that only if someone actually considers applying for a job they visit the career website and seek information on the process. In this case, the goal of the first phase has already been reached. Regarding the heterogeneity of the employed recruiting measures: A huge variety of recruiting events at universities, presence at job fairs, online and social media marketing, a candidate relationship management program, and many other measures contribute to the efforts in this first step. (We will address the different recruiting activities in section 4.3.) This means that for this phase there is no clear process or path that is followed by someone who is interested in the company and later might apply. Thus, this step can hardly be standardized nor documented. However, we decided to include this step anyways, also because all interviewees acknowledge this phase as part of the recruiting process.

The digital transformation induced by the necessary social distancing measures limiting the interaction between candidates and companies to virtual formats impacted especially this first step. Thus, the *informing & attracting step* is a central area to explore digital transformation in recruiting, a central goal of this thesis. We will explore the recent, also Covid-19-induced, changes throughout the recruiting process that were encountered in the context of the presented case study in the next subsection.

4.2.4 Recent Developments and Changes to the Recruiting Process

The current situation on the labor market, the war for talent, as well as the Covid-19 pandemic have induced changes to the recruiting process. The interviewees were asked to state the changes to the recruiting process they noted in the past, before and after the outbreak of Covid-19. A main observation is that the flow of the process stayed the same before the Covid-19 pandemic started and since then, but the means supporting the process and measures used changed. “I would say that so far it’s always been classic, as you would do it [the recruiting process] if it wasn’t virtual. Just with the help of different [digital] platforms due to Corona, but nothing innovative”, interviewee A-1 said. As all parts of the recruiting process had to switch to a digital setting, one can say that Covid-19 gave an immense push to the digital transformation in recruiting, even though the digitalization in the domain of recruiting was an ongoing trend even before the Covid-19 crisis [Weitzel et al., 2020]. Some steps could be more easily transformed to a purely digital setting than others. Screening of applications for example could easily

be done in the home office as all applications were submitted digitally anyways. As the data is available in a structured format via the application form or a semi-structured form in the CV, digital tools supporting this step can be employed [Abia and Brown, 2020]. Interviews could be conducted via videoconferencing tools with little constraints. However, recruiting events building on the personal interaction were heavily impacted, which gave rise to new technologies aiming to improve the situation. Which tools, platforms, or technologies have been used to overcome the restrictions and are still in use today will be visited in section 4.4

Even though the general process flow stayed the same, the switch to a digital setting still brought some changes and consequences to the recruiting process. In the following, we will have a look at the changes mentioned by the interviewees and highlight whether and why they are considered to be positive or negative. The changes were induced by the necessity of switching to digital settings as well as the technologies allowing for the switch. Thus, the focus of the interviews was on describing the changes rather than extracting the exact reasoning behind the changes as this would have exceeded the scope of the thesis.

Flexibility and Cost Reduction

One result of the switch to an online-only setting mentioned by eleven of the 15 interviewees, was increased flexibility in two dimensions. The first one is geographical flexibility and the second one flexibility in terms of time. The reasoning behind geographical flexibility is that participating in digital recruiting events, be it virtual job fairs, webinars or likewise and even online interviews was now possible from wherever one had a stable internet connection or as *R-2* put it: “First and foremost, geographical distances can be broken up.” In pre-pandemic times, consultants usually were at the clients’ location Monday through Thursday and interviews took place in the company’s offices. This meant, the interviews could only take place on Fridays or the consultant had to move from the client location to the office just for an one hour interview. If the client was in the same city as the office, this was sometimes possible but still stressful. For other recruiting events like job fairs or workshops which last multiple hours or even a whole day, physical presence was mandatory as well. Now all these events could be attended from the desk at one’s home (office). Similarly, applicants could participate in all these events from home, too. This had the added benefit of cutting down on travel time and cost, as there was no need to travel to the location of the event. One interviewee [*C-3*] added that less traveling for recruiting purposes furthermore means less CO₂ emissions. Less travelling also leads directly to the rationale for the second dimension, time. It was now much easier to slot in recruiting events or interviews in between internal meetings or client calls, in the case of the consultants or recruiters, or in between lectures, in the case of candidates. “It is now much easier for colleagues from recruiting [...] to schedule interviews”, said *C-3*. One interviewee from the group of *applicants* additionally mentioned that “you have a better chance of taking part in a relatively large number of applications [as you are able] to manage your time better when it’s online” [*A-4*]. The

sentiment regarding the increased geographical and temporal flexibility was throughout positive, as increased flexibility and reduced cost is generally seen as a positive aspect.

Efficiency, Speed, and Transparency

Closely related to the increased flexibility is an increase in efficiency, speed, and transparency in the process. These three aspects are highlighted together as seven of the 15 interviewees have mentioned them together or any combination of these three. For example *C-5* stated: “Efficiency, speed, and transparency are clear advantages in any case.” Transparency is valued by both sides of the recruiting process. *Applicants* mentioned that they like having the possibility to check the status of their application in the recruiting portal to which they have uploaded their documents. Interviewees from the groups of *consultants* and *recruiters* made the point that transparency about the status of an application aids the efficiency of the process since everyone involved on the company side can be perfectly involved and informed. This in turn has positive effects on the response time communicating the decisions to the candidates. Having a faster process and being better informed is non-surprisingly mentioned as a positive or beneficiary change.

Comparability and Fairness

Not only the process as such is more transparent, also the facts about universities, jobs, and companies are easier to collect in times where most information is publicly available on the internet. This leads to a better comparability of first the applicants and especially their university degrees according to *A-1*, and second of the companies. This is aided by the technologies deployed in the recruiting process. *A-2* stated that an applicant can now “make a more detached decision [...] because you know all the companies to the same extent when you get to know everyone through zoom, [Microsoft] Teams, etc.”. Further, as the process in one company has to follow a certain tool supported process, there is little room for deviation from the process within one company. In this context one interviewee from the group of *applicants* [*A-3*] stated that “every applicant goes through the same processes, the same steps”, which should help to increase fairness. This increased comparability and fairness is seen positively by the interviewees from the group of *applicants*. From the other two groups no statements have been made with regard to these aspects.

Interviews and Assessment Methods

Many interviewees mentioned that the interview and assessment methods had to be adapted due to the interviews being switched to a purely online setting. *C-5* mentioned that “by far the biggest change was of course the fact that we no longer held a single interview [...] in person. That was really the case overnight, that everything migrated to the digital world. [...] That was of course a huge change for us at first, even if the challenge of holding a video interview is not very great; so yes, a big change, but little

impact, so to speak.” Interestingly, he acknowledged a big change but little impact. As the interviews have been conducted online via video conferencing tools, also the used assessment methods have changed. Earlier, for case interviews the applicant was given a printed sheet with the problem statement. This obviously was no longer possible. Also for solving the task and presenting the solution different tools were required. “I also had to completely change things that I had done before on the flip chart, like case studies and so on”, *C-3* said. Thus, also the methods how a candidate was assessed had to change. Many of the participants mentioned this change with no particular positive or negative attribution to it. Some however expressed that they are not certain if they “would keep this development as it is” [*C-6*]. Others mentioned that it is more difficult to exhaustively evaluate a candidate via a video call. This is also due to the fact that it is much easier for candidates to use additional material to answer to interview questions when sitting in front of a camera. Thus, *C-5* mentioned that he tries “to get very far away from the classic questions in order to see how the [...] questions are answered, which cannot be prepared.” This also implies that the assessment methods have changed with the changed interview settings.

Digitalization

Last but not least an important change was the increasing use of different digital technologies in the recruiting process. Following the definitions from subsection 2.1.2 we categorize this as digitalization, as the usage of these technologies influences the process and changes the interaction of people [Garnter Inc., 2022a, Bloomberg, 2018, Westerman et al., 2014]. The digitalization in the recruiting process, however, has started already before the Covid-19 pandemic [Weitzel et al., 2020], which becomes visible when considering the state of research described in subsection 2.4.2. Many papers on electronic recruiting have been released since the 2010s and even before then literature can be found on this topic (e.g., [Bondarouk et al., 2016, Bondarouk and Brewster, 2016, Lang et al., 2011, Holm, 2012, Rico, 1962]). The interviewees mentioned the change from an analog recruiting process where applications had been sent by postal services has happened several years ago: “That changed completely about 10 years ago, and almost no one does that anymore and almost no one accepts that anymore” [*C-5*]. However, an additional shift due to Covid-19 was acknowledged by the interviewees. *A-4* told: “Because of Corona the whole thing has been moved to online then of course.” This shows that the digitalization of the recruiting process has been ongoing for several decades now and is continuing, as we will see in the upcoming section.

Having visited the recruiting process in detail as well as recent changes to the recruiting process, we will now move on to describing the implemented recruiting events and activities especially in the *attracting* & *informing* phase.

4.3 Recruiting Activities of the Analyzed Company

Most recruiting activities and most of the recruiting budget accumulate in the *informing & attracting* phase. Thus, we will focus on activities in this phase. The activities in the later phases are much more standardized and they have already been visited in great detail in section 4.2.

The goal of all the recruiting activities in the first phase is to get persons interested in the company so that they apply for open positions. Many different events, which will be described in this section, are organized and carried out. At these events usually employees from the group of *recruiters* and from the group of *consultants* are present; the former focus on providing information about the recruiting process as such and the latter support by responding to questions regarding the job as a consultant and answering them at first hand. As the recruiting efforts focus on recruiting highly qualified graduates for fixed hires and high potentials during their studies for internships, most recruiting activities take place in an university context. Especially interesting are curricula that include classes teaching the skills relevant for consultants and in the domain of financial services. This includes management, economics and finance, but also quantitative sciences like physics and mathematics as well as informatics. Collaborations with student consultancies or student clubs as well as chairs specialized in these fields are of particular interest. These collaborations provide the basis for many of the recruiting activities described hereinafter.

The focus on recruiting activities in the earliest phase of the recruiting processes and in the university context has also been noted by the interviewees in the group of *applicants*. A-3 stated: “This decreases, once you [...] have work experience, it’s not quite as relevant.” In this section we visit the most mentioned recruiting activities and events and also consult information available on the company’s intranet describing them. For each activity, we will first characterize them and, secondly, we will have a look at their suitability for virtual settings according to the interview participants.

4.3.1 Employer Branding

Description Employer branding is no single event or sequence of events like the others mentioned in the following. Talks and workshops or job fairs and likewise usually take place at a single point in time, while employer branding is an ongoing effort to develop a positive brand image and improve the company’s position on the labour market as a desirable employer to work for [Laumer et al., 2014, Backhaus and Tikoo, 2004]. Still, many interviewees (eleven out of 15) mentioned employer branding or activities that fall in this area as a recruiting activity for *informing & attracting* potential candidates and thus we include it in this chapter. All of the other recruiting measures have employer branding aspects to them, as a key part is to represent the company. Employer branding however goes further and is not event-bound, but includes activities such as online and social media marketing, sending out newsletters and likewise. This means, employer branding provides the framework in which all the other recruiting activities are placed.

Suitability for Virtual Settings As the goal of employer branding is to put out much positive information, digital channels are used a lot. Social media and online marketing are mentioned as prime ways to distribute marketing material and present the company. These channels are also used to inform about other events. Since distributing information about the company is the main focus of employer branding, it is relatively well suited to be supported by digital means or as *A-4* described it: “I would say everything [that is] about sharing information, you can do that relatively well with digital tools.”

4.3.2 Talks and Workshops

Description Some forms of talks, workshops or case studies for recruiting purposes were mentioned by the majority of the interview participants (twelve out of 15). The goal of this type of recruiting activity is to get the attention of potential applicants to the company by presenting an interesting topic to them as well as to transfer knowledge. *R-1* described these events as presenting “content from our day-to-day consulting work, in order to draw attention to the company, the way it works, the work culture, the everyday life of a consultant, and simply to present this job profile in an attractive way.” Hence, the content of these events are topics from all areas of consulting and the domain of financial services. The subjects range from workshops teaching skills necessary for any consultant, for example how to design a good power point presentation, to presenting deep domain knowledge, like the latest developments regarding regulatory aspects banks need to consider in their daily business or how good project management is done as well as training students in solving case studies similar to those they might encounter in interview situations.

Suitability for Virtual Settings Before the pandemic, talks, workshops and case studies usually took place in lecture halls, but also online formats, so called webinars, have been conducted. This indicates that a virtual setting for this type of recruiting events is feasible, which also was confirmed by the interviewees: “Anything that is more on the topic of knowledge transfer is well suited [for online settings]” [*R-4*]. On the other hand some interviewees mentioned a “reduced attention span” [*A-2*] of the participants in virtual talks or that they would prefer “to enter into discussions on the scene” [*C-3*] rather than have them in an online setting. However, the overall opinion was that talks and workshops can very well take place in an online or virtual setting.

4.3.3 Job Fairs

Description At job fairs, companies have their own booth to present themselves to people searching for jobs or internships or wishing to inform themselves about general career options. Often on one or multiple stages keynotes, talks and presentations take place in front of a larger audience. These fairs are usually organized by universities, their career centers or other organizations connected to universities. The exhibitors actively approach the attendees by handing out goodies. The attendees also have the option to informally get in contact with companies they might already have heard about and want

to get further information about applying there. Also, job fairs provide them with a good opportunity to get to know new potential employers that have not been known to them before.

Suitability for Virtual Settings It is in the nature of job fairs for students (and other interested) to roam around between the booths of different employers and have the option to freely come in contact and talk with the exhibitors. Digital tools for conducting fairs try to mimic that but with limited success. *C-5* summarized these issues from his perspective: “The problem is that you heavily depend on the kind of booth you have set up, how you come across [...] and of course, whether the applicants see that [...] you are available to be approached. [...] That doesn’t work at all in the digital space. [...] On average we only get 5% to 10% of the people [on digital job fairs] that we would manage [on in-person ones].” Other interviewees made similar statements. *C-2* said: “I don’t think job fairs are a format that should be done in a digital format. Simply for the reason that it’s different when you’re physically on site and have someone right in front of you and can ask questions, because there’s simply no greater hurdle than when I have to click into the chat or first have to look for a booth on a digital map by clicking through all of them beforehand. [...] And of course, as a company, you can’t talk to candidates who are on site, so all this eye contact, this interaction is simply missing in this case.” These statements are just two examples of the reservations regarding digital job fairs due to the missing personal contact which is a major disadvantage.

4.3.4 Interaction and Networking Events

Description The term *interaction and networking events* summarizes any recruiting activity that is not a job fair, talk, workshop, nor an classical employer branding measure. There is a wide range of activities that has been mentioned by the interviewees that fit in this category. Examples are (online) workout session, cooking classes, wine and cocktail tastings, networking dinners and likewise. These events have in common that, while the goal is still to market the company as an employer, the focus is not on providing information about the company, its recruiting process or job profiles, but on a different (fun) activity and in the course of this activity getting to know new people and networking with other participants as well as representatives of the company.

Suitability for Virtual Settings The focus on personal interaction, small talk and networking makes these events less suited for digital settings according to the interview participants. *C-5* described this issues as follows: “Typically, the more interactive and social the format, the harder it is to digitally replicate. [...] The social aspect of events cannot be replaced somehow in the digital space. [...] Or rather, you can replace it, but it just doesn’t work.” Other interview participants made similar statements. The only interaction and networking format that was seen feasible to be conducted virtually are one-on-one sessions. *R-1* mentioned that “one-on-one chats can also be done very well in digital format. [...] You have half an hour or 45 minutes to get to know each

other, check out each other's expectations, and just talk a little bit about the company and the day-to-day work of a consultant." This means, with the exception of a strictly bilateral exchange, interaction and networking events are deemed to be not suited for digital settings.

4.3.5 Internships and Relationship Programs

Description The next recruiting activity we will examine are internships and candidate or talent relationship programs. We view these two programs in combination as high performing interns are accepted to talent relationship programs. Talent relationship programs are a subcategory of the candidate relationship programs at the company, which implies there are different ways to be accepted in such a program: The first option is outstanding performance during the internship, or as a student writing your final (bachelor or master) thesis in collaboration with the company; an alternative option is that a candidate has been in the recruiting process but not passed it completely, maybe due to them still having to complete or progress further in their studies, but the company still wants to stay in touch with them because they have shown high potential. *R-2* explained these programs as "retention programs for people we have met in various formats, who could in principle be interested in joining us in the future, but who are not yet ready in terms of their studies [...]. You are then regularly informed about new jobs, events and news from the company." Also one might be added to such a program because they have stood out positively during other recruiting events. The common goal of all of these programs is to stay in contact with high potentials, inform them about current job offerings via a newsletter or invite them to special events in order to bind them to the company. *R-4* provided all this information as she is the one responsible for these programs. Further, there are programs to keep in touch with those who have already completed the recruiting process and signed the contract until their first day. Especially the program for high performing interns is among the most successful recruiting channels there are in this company according to the statements of different interviewees and the KPIs available on the intranet.

Suitability for Virtual Settings Depending on the entry way to these programs, different ways of interaction with the members of the program are used. In the programs where there is looser connection it is mostly a one-way information flow from the company to the program member in form of regular updates in a newsletter or likewise. In other programs, especially the intern binding program, a higher level of interaction and with that firmer binding is aimed for and thus also events are organized. In the former case digital means, like emails as newsletters, are sufficient to provide the information and connection desired. In the latter case however, as always when events are organized with the objective of a high level of interaction, physical events are the preferred way. Hence, in this case virtual settings are less suitable.

4.3.6 Job Advertisements

Description Job advertisements and job postings are a rather classic but at the same time fundamental recruiting activity [Torrington, 2008]. All vacancies and the corresponding job postings can be found on the career website of the company but “the possibility to place our jobs on external job boards” [R-1] is used as well. Further, universally fitting job postings, calling for speculative applications, are available and printed for example on flyers and handouts that can be distributed at job fairs and other recruiting events.

Suitability for Virtual Settings Although there are some occasions where printouts of job postings are handed out, the main way of communicating vacancies is online via the career websites or other job boards. Also, the *applicants* participating in the case interviews confirm that the companies’ websites are an important source of information when looking for a job. “The first step was always a bit of a job search, which I’ve actually always done on the Internet, even before Corona”, said A-2, “and the first presence of a company as an employer must also be online, because analog is simply no longer enough if you want to be an attractive employer.” This indicates that an attractive online presence is a necessity. Therefore, positing job advertisements is not only suitable for a virtual setting but a must-have nowadays.

4.3.7 Overview – Suitability of Virtual Settings for Different Recruiting Activities

Summarizing, some activities are far more suitable for being conducted in a digital or virtual setting than others. In order to provide the reader with a better overview of which of the six previously mentioned types of events are more suitable for virtual settings, we summarized the previously presented results of the interviews in Table 4.2. Some activities have been identified as being suited quite well for being conducted in an online or virtual setting: Any formats where the information flow is mainly unidirectional from the company to interested people and potential candidates are suited better. This includes employer branding, talks with a focus on conveying knowledge as well as job advertisements and newsletters. Other events with a high level of interaction are less suited. Amongst these are any networking events and especially job fairs. Thus, it becomes obvious that a balanced and well orchestrated mix of events in virtual settings and in-person activities is the best way to go forward. “I would actually say that it’s the mix that makes the difference [...] We need to have a digital background noise garnished with personal contact points. That would be the ideal way to achieve the best possible mix and generate many different touch points”, R-4 concluded her statements on the usage of digital means in recruiting.

Recruiting Activity	Suitability & Reasoning
Employer Branding	Well suited , because of the mainly unidirectional flow of information focusing on marketing the company as an attractive employer
Talks and Workshops	Conditionally suited , if the focus is on a pure knowledge transfer. If there are interactive elements or discussions included, in-person settings are preferable
Job Fairs	Not suited , since the personal interaction, that is a substantial aspect of job fairs, cannot be mimicked by digital tools
Interaction and Networking Events	Conditionally suited , only one-to-one interaction are a suited form of interaction and networking; other events with many people and a focus on small talk and networking are impeded by digital tools
Internships and Candidate Relationship Programs	Conditionally suited , depending on the specific program's content – purely one-way information or including interactive events – the level to which digital means can be meaningfully used varies largely
Job Advertisements	Well suited , because of the unidirectional flow of information; Additionally, online job advertising is a must have nowadays

Table 4.2: Overview of recruiting events and their suitability for being conducted in a virtual setting

4.4 Digital Technologies Supporting the Recruiting Process and Recruiting Activities

The previous sections gave an overview of the company and the interview participants to set the tone of the general circumstances of the case study, as well as described the recruiting process from different perspectives and outlined the most important recruiting activities and their suitability for a virtually and digitally supported setting. In all of these sections we touched the area of digital technologies supporting recruiting, but did never go into detail. As the focus of this thesis is the use of digital technologies in the recruiting process and the associated digital transformation in recruiting, the next section is dedicated to exploring which tools and technologies are used to support a digital recruiting process. Thus, we will now describe which tools are currently used according to

the statements of the interviewees and available documentations on the intranet, followed by an overview of which tools and technologies are planned to be used in the future. Adding to this, we will have a look at the experiences the interview participants outlined when using these tools.

For this section it should be mentioned that the tools were not called the same by all interviewees. For example some talked about videoconferencing but others about video calls. Further, only tool names were stated and the context in which the tool is used. We then looked up the tool to see its exact functionality. Using common knowledge, we identified which terms are used for the same tool, and information about the tools available on the Internet was used to categorize them concisely.

4.4.1 Currently Used Digital Technologies and Tools

Currently, different tools for different purposes are used. Videoconferencing tools are employed for conducting conversation without the necessity for presence at the same location. Platforms for virtual job fairs have been developed with the goal to mimic analog job fairs in a virtual setting. These platforms are a very specific form of digital tools used in the recruiting process that aims at enabling interaction. Many other tools exist that have a much narrower scope while still trying to overcome limitations of a virtual setting by providing a digital clone for a method that would normally be used in an analog setting. The company's website and its career section is a central tool for the recruiting process, especially in the *informing & attracting* phase. Application documents are uploaded here and are further processed in the candidate management portal which provides the recruiting department with all necessary information and guides an applicant through the recruiting process. Also in the last phase, the *selection & job offer* phase, new digital tools, e.g., for digitally signing the contract, are available minimizing the necessity for analog steps.

Office Tools

For completeness, we also mention standard office tools like word processors, spreadsheets, mail programs, Internet browsers and likewise here. Obviously such tools are used in any office nowadays. However, as they have been explicitly mentioned by some of the interview participants, we name this category of digital tools and technologies at this point.

Power BI

For the evaluation of recruiting KPIs, Power BI is used. The KPIs described in subsection 4.2.2 are visualized in different diagrams and spreadsheets with this tool. This provides a broad overview and easy access to all relevant facts and figures regarding the recruiting process in general as well as detailed information about specific areas of the recruiting process or individual candidates passing through the recruiting process.

Videoconferencing Tools

According to the Oxford Dictionary, *videoconferencing* is “a system that enables people in different parts of the world to have a meeting by watching and listening to each other using video screens” [Oxf, 2022]. In the context of recruiting, videoconferencing is used for different activities and events. According to the interviewees, different events of the *informing & attracting* and *assessment & selection* phases such as workshops, talks, job fairs and job interviews are being conducted using videoconferencing tools. The reason for employing videoconferencing tools to larger extent was first and foremost the necessary limits to social contact because of the Covid-19 pandemic. However, webinars have been part of the recruiting event portfolio even before the pandemic. Different types of videoconferencing tools have been named. The most mentioned tool was *Microsoft Teams* as this is also the default videoconferencing tool used for the daily business. The runner ups were *zoom* and *Skype*. Further *WebEx* and *GoTo-Meeting* have been listed. Which tool is used is often dictated by the organizer of the event. The company usually prefers *Microsoft Teams* as all employers are proficient in using it or *GoTo-Meeting* for the additional features like questionnaires and analytics it offers. Thus, *Microsoft Teams* is the tool used for job interviews and *GoTo-Meeting* the one usually used for webinars, talks and likewise where there is a more unidirectional flow of information. In the case of job fairs the tools employed often bring their own videoconferencing functionality.

Virtual Job Fairs

Virtual Job Fairs are supported by platforms that aim at mimicking a job fair in a virtual setting. These platforms became especially popular in recruiting due to the necessity to limit personal contacts as a result of the Covid-19 pandemic. This means, they are quite a novelty. They take aspects of real life job fairs and try to recreate them in a digital way. Some offer the possibility to create an individual, digital booth and have a virtual representation of a fair hall where one can navigate by clicking on those digital booths and other elements. Usually, some type of communication to the persons at the exhibition stand is offered – sometimes via chat, sometimes there is a video call feature for which time slots have to be booked. Participants might also have the possibility to upload a CV beforehand so that the exhibiting firms can get additional information about the persons they are interacting with. As job fairs are usually not organized by the company these tools are also not at the choice of the company. This means, the usage of the tool chosen by the fair organizers becomes obligatory when one wants to participate in the event. Thus, *recruiters* and *consultants* that supervise the virtual booth have no choice but to work with these tools.

Interaction Facilitating Tools

Under this term we summarize any tools that, similar to job fair platforms, recreate well known activities often used in an analog setting in a digital or virtual way. Examples for tools in this category which have been mentioned by the interview participants are: *GatherTown* or other types of virtual offices, *MiroBoard*, *Mentimeter* and *Kahoot!*.

GatherTown is an example for a tool that allows creating a virtual office in a computer-game-like setting. Users can create avatars that can walk around in a virtual building and interact with other candidates or employees also currently logged in. The goal of this tool is for a candidate to get a better picture of how the office is similarly to if they were visiting the office themselves in person. This can be used also for events focusing on interaction and networking as people can easily and freely move around and choose on their own with which other avatar they want to interact and start a conversation with as it would be the case in a classical in-person networking event. The other three are tools aiming at enriching talks and presentations in an online setting by offering more interactive possibilities. *MiroBoard* is a digital and collaborative whiteboard that allows different persons to work together on a virtual canvas. *Mentimeter* makes it easy to incorporate different types of surveys in a presentation which can be filled out via any web-browser and the results are visualized in an appealing style. *Kahoot!* is a suite of different tools to make online presentations and teaching more interactive and immersive. There are many more tools that could be named here, but are not used by the analyzed company. Common to them is that they allow to overcome some of the shortcomings and limitations digital settings have when it comes to interaction and collaboration.

Career Website and Online Application Platform

All job postings are published on the career website and candidates must submit their application documents via the online application platform. A major reason for this are data protection and privacy regulations the candidates have to agree to so that the company is allowed to store and process their personal data. This platform can be accessed directly from the career website or more precisely from each job posting. Candidates who have submitted their application and set up an account can check the status of their application via the online application platform and also append additional documents and edit their data if need be.

Candidate and Talent Management

The *candidate management portal* is the back-end to the online application platform. In the analyzed company the used tool is *SAP SuccessFactors*, which is also used for other HRM tasks. Any application submitted via this platform is entered into the candidate management portal, which is the centerpiece of software used by the recruiting department to manage the whole recruiting process and guides any candidate through the process. In section 4.2 we have described the recruiting process from the company's perspective and the different status an application goes through. This process and the accompanying status are managed and supported by the mentioned management portal. Any employee involved in the process uses *SAP SuccessFactors* to access the needed information about a candidate and also adds information according to the result of the tasks and process steps they are responsible for.

Besides the candidate management portal, there is also a second tool for managing a pool of people who might be interesting for the company in the future. "On the one

hand, there are candidates from events that we found interesting, but who, for example, are not yet far enough advanced in their studies for a permanent position [...]. On the other hand, there are also candidates who were in the interview process for a job posting, but simply didn't make it to the end of the process, but are still interesting [...] and are therefore in this pool", *R-1* described which persons are added to this pool. The tool used here is *talentry*. This tool allows to manage a pool of talents, but also supports active sourcing as well as pre- and post-processing of recruiting events. The internal referral program is managed via this tool, too.

Contract Signing

Also in the final phase, *selection & offer*, digital tools are used that are not in the first category of standard office tools. Usually, contract details and the contract as such are sent digitally by email and as a hard copy by postal services. The hard copy then has to be signed using a pen and sent back using traditional postal services. Recently, the designated hire is given the option to also digitally sign the contract using *DocuSign* and return it right a way by email.

4.4.2 Planned Usage

Regarding the introduction of new tools in the recruiting process there is not much planned according to the interviewees. Just two interviewees (*R-2* and *R-3*) answered to the question asking for digital technologies or tools that are planned to be used in the future with *R-2* saying: "I don't know of anything that has to do with our central processes here. At least nothing that comes to mind here right now." However, she also added that there are a few technologies on the side that will find usage in the near future, e.g. *TikTok* as a new platform for social media marketing and employer branding activities as well as video and podcast formats for putting job advertisements out there. Then there is the idea of using tablets in face-to-face workshops or case studies for presenting the instructions instead of printing them out. *R-3* added that they are currently evaluating options for a more in depth parsing of CVs using artificial intelligence. But this is only for extracting the relevant data from the CV and not automated screening and decision making for rejecting or advancing a candidate in the recruiting process.

4.4.3 Encountered Challenges and Issues

The interviewees also were asked to describe problems, challenges, and issues they have encountered when applying digital technologies in the recruiting process. Besides being difficult to use and issues with the general functionality, i.e., the tools not behaving in the way they are expected to, seven interview participants mentioned network and connectivity issues which were described as especially annoying when using videoconferencing tools. In this case a bad connection also has the consequence that one could not understand their counterpart as voices were distorted or lagging, or the connection broke down completely. However, the reason for such issues cannot be fully attributed to the tools as such since

also the network quality and bandwidth are highly relevant factors influencing the quality of a video call. One interviewee [R-4] recounted that she knows of candidates that are afraid of a technical malfunction negatively influencing their interview performance.

A future area for improvement has been identified in the Candidate Management Portal. Interviewees from the company side are unhappy with the way information is exchanged via the Candidate Management Portal. They mentioned that there are issues of information not being available to the right person at the right time or that they get assigned tasks which they cannot execute because of missing permissions or a incorrect status of the candidate. Additionally, the status not being tracked correctly entails that candidates sometimes get stuck in the process. This presents a severe issue as this might lead to candidates withdrawing their application because of long waiting times or because they think they have not passed but instead have not gotten any notice informing them of being rejected.

4.5 A Glimpse in the Future – Requirements, Wishes, Expectations

The previously described issues are obviously areas in which the interviewees also see room for improvement. They have furthermore been explicitly asked to state what they would like to see digital tools supporting the recruiting process offered and what changes they expect to come to the recruiting process. The answers to these questions were quite heterogeneous. Some stated that they do not see much need for more tools to be used in the recruiting process, while others outlined quite specific ideas on how they would expect technologies to be used and change the recruiting process in the future. This does not come as a surprise since expectations usually are highly subjective. Still, we will outline the areas mentioned by multiple interviewees.

4.5.1 Reaching the Peak?

Especially interview participants from the group of *consultants* stated that they expect only little changes or few new developments with respect to the usage of digital technologies in the recruiting process. “I think [...] you get to the point where another tool doesn’t add value to the recruiting process”, said C-6. However, there are also voices that expect or wish for additional tools supporting the recruiting process. Besides being sceptical regarding the added value of new tools to the recruiting process, C-6 described that he could imagine a tool analyzing the candidate, their answers, behavior, gestures and likewise during an interview. We will revisit this in subsection 4.5.3.

4.5.2 Hybrid Interviews

In subsection 4.2.4 we have seen that interviews and assessments methods have already changed in the past with regard to an increasing digitalization in the recruiting process. However, seven of the 15 interview participants mentioned job interviews as an area where

they expect further changes. A commonly mentioned aspect is that interviews will not return to a fully in-person setting but remain in a hybrid format. The company analyzed in the case study tries “to set up a hybrid model so that the candidate also has the opportunity to look at the offices on site and to get to know the people in person” [R-3]. Different scenarios how a hybrid interview setting might look like have been outlined by the interviewees. It was suggested that the candidate will be given “the choice of what they prefer, digitally or in-person” [R-4]. Another option would be that the candidate still comes to an office location but one or multiple of the interviewers sit in other offices. This would mean that the interview is still conducted at least partly via videoconferencing tools while the candidate still has the chance to get “an impression of what the office actually looks like, [and] what the colleagues are like” [C-3]. Hybrid settings would thus aim at combining the advantages of digital interviews, e.g., the previously mentioned flexibility, with the possibility to get to know the company, the office, and even other colleagues in person.

4.5.3 Automation, Artificial Intelligence, and Data Analysis

The interview participants also mentioned an increasing automation and potential usage of artificial intelligence in the recruiting process and decision making in recruiting. Even though these two aspects are closely related, since with the usage of artificial intelligence decision making processes can be automated also in recruiting [Bogen and Rieke, 2018], automation does not always imply the use of automated decision making. While a complete automation of the recruiting process is not deemed to be a likely future development, the interviewees mentioned that they can imagine that a higher level of automation to support the recruiting process will eventually be realized. Automation might also just simplify and ease the tasks of the recruiting department, for example through extracting the relevant information from the uploaded application documents so that for each applicant the necessary information is available in a standardized format. The *screening & shortlisting* has been mentioned quite frequently as an area in which automation and artificial intelligence can help to improve the process. It is expected “that more is automated and standardized, especially in the shortlisting phase” [A-1]. A-1 also mentioned that she would prefer that the necessary data were extracted from her CV automatically instead of having to enter all information into an online form. With these data available in a structured format also a higher level of automation of the recruiting process could be reached as automated decision making could support in the *screening & shortlisting* phase analyzing applications for hard facts and categorizing them. This might lead to candidates being rejected automatically if they do not meet certain K.O. criteria.

Additionally, with more, structured data a better data analysis would be possible to get even more detailed reports “so that you can ask any question you want in recruiting, for example in the event area: ten students from university X participated in event XY, five students from university Y” [R-1] and crosscheck whether one of the participants has applied. This would aid in evaluating whether the recruiting activities have been targeted

precisely. Also checking whether the job advertisements and positings have reached the right person could be done based on the data from the applications. If one gets many applications to a job posting that do not fit, it could be concluded that the advertisements are not reaching the correct target group. One trend that should be mentioned in this context is *active sourcing*: Interviewees from the recruiting department expect to employ artificial intelligence to actively search through online career and networking platforms for persons that are considered to be highly fitting for open positions. With that an improved targeting of the job posting can be reached.

However, the sentiment regarding an increased automation is mixed. Some favor the support and ease in administrative work they expect to receive with more automation: “The advantages of digital tools are simply that many processes are simplified, many work steps, especially administrative work steps, are taken away from you because the tool takes care of them and you don’t have to do it yourself” [R-1]. Others highlight that recruiting is still about getting to know someone in person and that it might be “more problematic when human decisions are no longer involved, but rather algorithms or machine decisions” [A-1]. Further interesting ideas for future application of artificial intelligence were sketched by C-6. He expressed that he might imagine an intelligent tool supporting during the interview by analyzing the body language and answers given by the candidate. Based on this analysis the tool would suggest questions the interviewer might ask and again evaluate the answers given by the candidate not only content-wise, but also based on their behavior. However, in this context he also questioned the legality and ethics behind such tools as he believes it should always be a decision of a human whether a candidate is accepted or not. For the use of automated decision making in recruiting further questions, especially regarding fairness, equality, bias, and privacy aspects need to be considered and according questions answered [Bogen and Rieke, 2018]. Others, especially interviewees from the group of *applicants*, share this criticism. Furthermore, C-6 cannot image that a tool can cover all aspects that are relevant for this decision. It can be concluded that there is a consensus amongst the interviewees that automation will be increasingly used in the recruiting process and thus further change the recruiting process, but to what extent and with which consequences remains to be seen.

4.5.4 User Experience

A further often mentioned aspect that is more in the area of requirements and wishes than expectations is a good user experience and usability of the tools. Interestingly, requirements in the area of user experience are put forward exclusively by interviewees from the company side (*recruiters* and *consultants*). User friendliness is a term that is mentioned stand-alone or in connection with a reduction of error rate. Further statements regarding the user experience are more differentiated. Some mentioned that they wished the systems used in the recruiting process, especially the candidate management portal, are functioning flawlessly on each and every device. “It should look the same everywhere, work the same, offer the same range of functions and thus be quickly accessible” [C-5]. This requirement can be described as a single cross-platform application. This in turn

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pays in to another topic mentioned in the context of user experience. The interviewees mentioned they would like the systems to be more self-explanatory and thus easier to use. This entails also a reduction in complexity and an increase in standardization. Standardization is also a relevant aspect when considering the requirement for a single cross-platform application.

Discussion

We now put the previously presented results in context to each other discussing advantages and disadvantages of using digital technologies in the recruiting process. Following that we involve existing literature presented in chapter 2 to deduce implications for theory. Also implications for practice will be explored. From that we highlight potential for future research also to cover the limitations of our research, which are also pointed out at the end of this chapter.

5.1 Contextualizing and Discussing the Results

As we have explored many different aspects regarding the recruiting process and its digitalization, we now aim at establishing connections between those aspects. In the case study we have analyzed the recruiting process, recruiting activities, and the digital tools used in the recruiting process mostly separately in subsection 2.3.2, section 4.3 and section 4.4. Also, the expectations and wishes of people using these tools have been highlighted. These results are now going to be combined by deducing advantages and benefits as well as disadvantages and challenges. We will also give context to these results by involving existing literature. The general sentiment regarding the digital transformation is quite clear: All interviewees mentioned that they had experienced an increase regarding the use of digital technologies and digitalization in recruiting and expect that it will rise even more in the future. “So I think there is basically the possibility that in the short term the recruiting process will become less digital again in a post-Corona world. [...] Otherwise, my expectation would be that it will basically increase”, said [C-5] in this context.

5.1.1 Advantages and Benefits

Most of the advantages go hand in hand with the recent changes to the recruiting process described in subsection 4.2.4. Many interviewees agree on the increased flexibility regard-

ing when and where recruiting events and interviews can be attended, using for example videoconferencing tools, as a big benefit of a recruiting process supported by digital tools extensively. Alongside this, the reduced costs for travelling have been mentioned as an advantage based on using digital technologies in the recruiting process. Also the increased efficiency, speed and transparency is an upside in this context. Furthermore, an increased automation of administrative activities is seen as a positive development easing the daily tasks of the recruiters. In addition, candidates see an increase in fairness of the recruiting process due to an increased standardization within the recruiting process of one company and an improved comparability of companies when looking for a place to work as positive effects of the digital transformation in recruiting.

5.1.2 Disadvantages and Challenges

Although many advantages have been named, disadvantages and drawbacks have been identified and mentioned by the interview participants. First and foremost, interacting with candidates mainly or purely through digital means limits the extent to which candidates and recruiters can get to know each other. Presenting the company and its culture is much harder without personal interaction as *R-3* stated: “new technologies create a lot of added value in the process, but nevertheless you have to integrate this human aspect somewhere so that you can also convey a corporate culture.” Virtual interaction makes it also more difficult to identify and evaluate important characteristics of the candidates to determine their fitting to the job, team, and company. “A big disadvantage, especially in the interview or event area, is that you simply don’t have personal contact. [...] Body language cannot be identified or used as a criterion in the same way as it was in face-to-face events”, *R-1* pointed out in this context. When it comes to recruiting activities, many had to change to a digital setting because of the Covid-19 pandemic, but not for all of them a digital setting is feasible. In the context of digital recruiting activities there are some drawbacks compared to in-person ones. Especially job fairs and events focusing on interaction and networking are not suited very well for digital settings. Here again the limits in personal contact pose a big challenge.

5.2 Implications for Theory

Having had a look at the overall advantages and disadvantages stated by the interviewees, we will now address the implications the results of the case study can bring to theory. First, we will present a new view on the recruiting process incorporating existing research and new findings from the case study and second, we will follow [Abia and Brown, 2020] and put our results into context to their conceptualization framework for e-recruiting.

5.2.1 A New View on the Recruiting Process

In section 2.3 we have already established that different views on the e-recruiting [Abia and Brown, 2020] and the recruiting process exist in literature. Based on various

recruiting process descriptions in literature (e.g. [Bogen and Rieke, 2018, Fernández-Aráoz et al., 2009, Laumer et al., 2009, Laumer et al., 2014]) we have developed our own four-step recruiting process, starting with *informing & attracting*, followed by *screening & shortlisting* and *assessment & interview*, and concluded by *selection & job offer*. This process served as a basis for the case study as we analyzed the specific company's recruiting process along it and used it for guiding the interviews. What became evident, just by comparing the descriptions of the recruiting process presented to candidates on the company's website and the recruiting process documentation available to the colleagues involved in the recruiting process, is the duality of the recruiting process: There are two parties with different perspectives and goals interacting in the same process [Torrington, 2008]. Thus, in subsection 4.2.3 we have presented a holistic recruiting process combining the candidates' and company's perspective on the process (see Figure 4.3). This holistic recruiting process might serve for future research as a basis for examining the interaction between candidates and employers as we have shown different contact points between these two parties involved in the recruiting process. We acknowledge, however, that the exact recruiting processes are highly individual from company to company and thus the presented recruiting process can be used as a mere starting point and most likely needs adaption for using it when analyzing other cases.

Furthermore and in line with existing research, a missing agreement on the steps that are part of the recruiting process could be observed. Especially regarding the activities of the *informing & attracting*, there seems to be no intuitive agreement on whether they are part of the recruiting process or not, since not all interviewees immediately mentioned activities that can be associated to this phase. Also, the documentations and descriptions of the process do not include such activities. In literature, however, activities in these areas are often included (e.g., [Laumer et al., 2009, Laumer et al., 2014, Lang et al., 2011, Bogen and Rieke, 2018, Carroll et al., 1999, Fernández-Aráoz et al., 2009]). This means there is a discordance between the process as it is described in literature and documented in practice. There are some potential explanations for this. First, from the candidates' point of view: The description of the website is targeted. Only such persons who have already passed through most of the first phase will reach the page on which they can submit their application which is also the place where the process is described. As such, there is no need to mention the *informing & attracting* phase. Second, from the company's point of view: The activities in this first phase are largely non-standardized. Different events take place, marketing campaigns are launched, various other employer branding measures are undertaken, all with the goal of getting individuals interested in the company and to submit their applications. This huge amount of recruiting activities is somewhat chaotic and seldom targeted to one specific person. A process, however, is always passed through by a specific entity – in the case of the recruiting process a specific person – but only after an application has been submitted there is a specific person that can be processed. This implies that especially in the *informing & attracting* phase there is little possibility for a standardized process. Hence, standardization of the recruiting process should focus on the part after an application has been submitted. The *informing & attracting* phase should still be considered as an important aspect of

the recruiting process as without effective activities in this phase only few candidates might apply. Thus, also this phase can be considered as an integral part of the recruiting process (see e.g. [Bogen and Rieke, 2018, Laumer et al., 2014, Fernández-Aráoz et al., 2009]), however without much need for standardization.

5.2.2 Conceptualization of E-Recruiting and Digital Transformation in Recruiting

In our results we find evidence for all five conceptualizations of e-recruiting of [Abia and Brown, 2020]. We have examined digital tools being used covering the first one, “e-recruiting as a technology tool”, and their usage for facilitating interaction between employers and candidates covering the second one, “e-recruiting as a system” of the (two) parties involved [Torrington, 2008]. As the recruiting process has received much attention in this thesis, it is evident that also the third conceptualization, “e-recruiting as a process”, can be observed in our findings. In the examined process the steps are supported by digital technologies to various extent. Also the fifth conceptualization, “e-recruiting as a proxy”, was presented in the form of the career website acting as a digital representation of the company. Lastly, also the fourth conceptualization, “e-recruiting as a service”, can be found in the statements of the interviewees as it was mentioned that the company collaborates with external agencies for recruiting purposes. This underlines the different conceptualizations of e-recruiting presented by [Abia and Brown, 2020] are valid. Common to all of these five conceptualizations is the usage of digital technologies in the recruiting process, but in different forms. As we have seen in the case study, many different digital technologies are used not only independently but also in combination. E-mail technology is used in combination with the candidate relationship management software for automatically sending messages to the candidates, videoconferencing is used in combination with other collaborative tools, and so on. These are just examples from the case showing how different technologies are used in combination for informing candidates and communicating with them as well as connecting to them and computationally processing their applications. All these aspects can be found in the definition of digital transformation of [Vial, 2019] presented in section 2.1 meaning that e-recruiting is the manifestation of the digital transformation in recruiting.

5.3 Implications for Practice

Besides implication for theory, the results of this master thesis, being a case study, innately bring forward implications for practice. One of the biggest challenges that practitioners in the area of recruiting have faced during the pandemic is how to bring existing recruiting events and activities to a virtual setting. This is the first implication we will highlight in this chapter. The second is a continuously increasing use of digital tools supporting all steps of the recruiting process. This is further influencing how the parties involved interact, communicate and exchange information. Third, we explore the requirements practitioners have regarding new (digital) technologies supporting the

recruiting process. This shall help providers of digital tools for the recruiting process to improve their offering and increase the fitting of their tools to the needs and wishes of their users.

5.3.1 Suitability of Recruiting Events in a Virtual Setting

In section 4.3 we have explored the recruiting activities and events undertaken by the company and rated their suitability for a digital setting according to the statements of the interviewees. A key takeaway in this context is that it heavily depends on the focus of the recruiting activity and thus also the phase of the recruiting process whether and to what extent digital technologies are suitable. An important factor is the level and type of interaction between the two parties involved. If the activities focus on conveying information about the company or job offerings, the communication is mostly unidirectional. In these cases, digital tools can be used very well, e.g., by using the company's career website or other online job portals. Furthermore, also for conveying knowledge and information about topics, for which the company stands, e.g., in the form of talks, digital tools are suitable. Webinars via videoconferencing tools – similar to lectures in distance learning settings – work very well. The downside, however, is that there is little to no possibility for personal interaction in the form of a Get-Together after the talk. For recruiting events or activities that are focused on personal interaction and networking in large groups, the use of digital technologies is not recommended. This includes job fairs and other events that focus on small-talk and getting to know each other – the candidates the company and vice versa. However, personal interaction in a one-on-one setting can work very well; only body language might be hard to read through the camera. Thus, also interviews in the later phases of the recruiting process can be conducted quite well in a virtual setting using video calls.

We have seen that it heavily depends on the goal and focus of recruiting events whether their in-person version can be substituted by a digital one well. As a rule of thumb for practitioners it can be said, the more the focus lies on personal interaction and networking the less suitable the event is for a digital setting. On the contrary, activities focused on conveying information can be supported quite well or even enhanced by digital tools.

5.3.2 Increasing Use of Digital Technologies Changing Recruiting

The results of our case study show that the recruiting has changed heavily in recent years. Increasing use of digital technologies, partly mandated by the Covid-19 measures, is changing the way recruiters interact with candidates. The process presented in subsection 4.2.3 shows various contact points between candidates and recruiters. All of this interaction has been conducted virtually during Covid-19 times. Many of these new modes of interacting will persist either complete virtually or in hybrid settings. Hybrid interviews, for example, were an extreme rarity, but are now expected to become common practice. Webinars and other fully virtual recruiting events have existed before 2019 but are now used even more frequently as they allow for easy participation. Nevertheless,

in-person contact is seen to remain a necessity in the recruiting process to convey the company culture and identify the fit between the candidate and the job. Thus, it is expected that digital and analog recruiting activities will be used in parallel supplementing each other. The perfect mixture needs to be found by those responsible for the portfolio of recruiting activities.

5.3.3 Requirements for Digital Technologies in Recruiting

A further aspect the case study focused on is which requirements technologies in recruiting and supporting the recruiting process must fulfill. These requirements not only arise from the wishes and expectations recruiters and candidates have, but are also based on regulatory and legal aspects. Data submitted in any application include very sensitive and highly personal data [Lang et al., 2011]. Thus, special attention needs to be given to laws ensuring privacy such as the General Data Protection Regulation (GDPR). This is also one reason for only allowing applications to be handed in via the online application form such that the lawful processing can be programmatically ensured including actively giving consent for the processing of personal data under GDPR. Besides legal requirements it was mentioned by most interviewees that they wished for better user experience and improved usability. This includes that no information gets lost in the process, that the tools are easily accessible on every device and also that the systems are more easy to use or have a more intuitive and self-explaining user interface. Especially in the area of candidate management systems there seems to be large room for improvement. Providers of such systems should thus focus on these areas and analyze the pain-points of those using the systems on a daily basis in order to improve their ease of use and perceived usefulness in order to increase user acceptance [Davis, 1989].

5.4 Limitations

Case studies present several challenges to the researcher. [Lee, 1989] describes four issues that need to be addressed when conducting case studies as a scientific methodology: Making controlled observations, making controlled deductions, allowing for replicability, and allowing for generalizability. The challenges of making controlled observations and controlled deductions are both connected to the fact that, other than research in natural science, no completely controllable laboratory settings for the experiments, the cases, can be established. Reaching replicability is difficult since no objective third person might examine the exact same case again. Generalizability presents an issue, especially in a single case setting, since the results are susceptible to being considered as only applicable in the given case. [Lee, 1989] and [Eisenhardt and Graebner, 2007] present different ways to address and mitigate these issues of case studies, which were applied in our research (see chapter 3).

These general limitations of single case study research obviously also apply to this master thesis. Furthermore, some limitations specific to this case study should be pointed out. Being a single case study we have focused on a company operating and thus

recruiting mainly in Europe and even more so in the the DACH region. Additionally, also the interviewees were from Austria and Germany only and we had more than twice as many female as male interview partners. To what extent this might have influenced the results could not be examined. The size of the company may also have an impact on how recruiting activities are organized and how hiring decisions are made. Furthermore, the recruiting process analyzed was focused mainly on a particular type of candidate: University graduates with good to very good grades in the areas of economics, management, finance, and natural sciences with an interest for consulting and financial services. Thus, whether the results are applicable to companies of different sizes and outside the consulting sector, recruiting graduates from other domains, hiring persons from other companies or for apprenticeships cannot be ensured completely.

5.5 Further Research

From the presented limitations also possibilities for further research arise. Future research might focus on examining the differences in the recruiting process based on the aforementioned factors like targeted candidates or geographical location. Also the perspective of different genders regarding the recruiting process could be of interest for future research. The results of the case study are based on qualitative evidence. Quantitative data was only used to describe the case and underline qualitative findings. Also, much existing research on e-recruiting is based on qualitative methods (e.g. [Eckhardt et al., 2014, Stetten et al., 2008]). Thus, quantitative research on the requirements and wishes towards the digital transformation of the recruiting process and e-recruiting in general might provide further valuable insights in this domain.

The special circumstances of the Covid-19 pandemic increased the usage of digital technologies in recruiting and was thus also the trigger for this master thesis. However, an increasing application of digital technologies in recruiting was already observable before the outbreak of Covid-19 [Weitzel et al., 2020]. The results of this case study do not differentiate between changes to the recruiting process that were induced by the pandemic and others that were induced by advances in technology or other factors. Hence, this presents a further area for researchers to examine.

Furthermore, during the analysis of the interviews it was noted that the effort in recruiting activities on social media increases steadily. Research in the future might look into this development. A question that would be interesting to answer in this context is the following: “How well does recruiting on social media such as Instagram, TikTok, and Facebook work especially in an area where highly qualified persons are the target of the recruiting activities?”

CHAPTER 6

Conclusion

The digital transformation is increasingly influencing the recruiting process. Challenges in the labor market such as the war for talents are pushing employers to adapt their recruiting practices. Exemplarily, social media is likely to become an increasingly important channel for employer branding activities. Accelerated by the Covid-19 crisis the use of digital technologies in the recruiting process for various purposes is increasing even more. With that, new opportunities arise for both employers searching for candidates and companies offering digital tools supporting the recruiting process. Automation is easing administrative tasks, virtual environments help replicating otherwise analog recruiting activities in a digital setting, new means of communication speed up the recruiting process and increase its flexibility. These are just some effects of using digital technologies in recruiting, which we have encountered exploring the usage of digital technologies in the recruiting process of a modern consultancy on the constant search for new talented and highly qualified employees.

The practical insights and empirical evidence gathered in the case study provide input on the requirements towards digital technologies supporting the recruiting process so that practitioners can use these to develop new software or improve existing tools to fit better to the wishes and needs of recruiters and candidates. The detailed process description which we have developed can help researchers to analyze the effects of the digital transformation in recruiting further.

One can be sure that the use of digital technology will increase in recruiting, as it is in nearly all other areas of our lives. The application in recruiting however comes with additional challenges. Privacy and data protection are major concerns when processing CVs containing basically a person's entire history. Fairness and bias in the selection of new employers have demanded the attention of recruiters and researchers for several years now and will continue to be on their agenda when automation and artificial intelligence are used more and more in recruiting. We are confident, this thesis will help to tackle these and other digital technology related challenges in recruiting.

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Appendix

Tables

Table A1: Statements regarding the responsibilities of the interview participants in the groups of *consultants* and *recruiters* in the recruiting process

ID	Task description
C-1	“I am being appointed as an interviewer . [...] I would not describe myself as a recruiter. I support our internal department.”
C-2	“My job is to conduct interviews with candidates - mostly I am the second interviewer . After they have had the interview with the partner and before that, of course, also with HR, I am usually the person, together with a second colleague, who then also conducts a case interview and checks whether the person has analytical thinking skills and also approaches the case in a problem-solving way and, of course, we also briefly discuss the CV and expectations and what is important to the person in the job and what is less important.”
C-3	“I’ve been responsible for internship management at our company since 2015. I start with job postings [...] through to interviews, approving contracts , and then also the staffing of interns on projects. That means I have a relatively broad view of our recruiting process. In addition, I’m also part of the IT recruiting team, which exchanges information about overarching topics and issues. That is, through my role as an intern supervisor. And of course, what we also do on the side is support recruiting efforts like job fairs.”

ID	Task description
C-4	<p>“I receive applications [...] which I then sift through to see whether they go through to the pre-selection stage for the interview. [...] I am then assigned interviews, which I conduct accordingly with the applicant and enter my feedback in this recruiting tool [...]. For fixed hires, that’s where the recruiting process ends for me. For the interns, I receive the potential acceptances for approval for the interns I am responsible for. [...] If I was the last interviewer at that point, it’s then my task to call the applicant and inform them of the acceptance or rejection. If there are still questions, I get in touch with Recruiting or HR and send the appropriate answers to the applicant for the internship position.”</p>
C-5	<p>“[My tasks include] the implementation of [recruiting] events and attendance at trade fairs, or simply being available for potential candidates via channels such as LinkedIn, through which I am also often contacted directly [...]. That is the first step, in which I am very active. The second step is that I then act as an interviewer myself. [...] As soon as it goes into the interview round, these [application documents] also end up with me and my job is then to conduct the interviews and then to coordinate and call candidates to see if we can make them an appropriate offer. [...] This is often a lengthy process, where we stay in contact with the relevant applicants and communicate back and forth until we have made them the right offer – until they can be sure that they have received the best offer for them and that they will get what they expected. And for me, the last touch point is often to act as a mentor before the start to pick up the new employees, to pre-inform them and to prepare them for the first day.”</p>
C-6	<p>“My job in the recruiting process is to conduct interviews [...] and then make decisions on whether candidates [receive an offer. This] has to be a unanimous decision that someone is a good fit for us. First, I conduct my own interview, and then I am part of the three-person committee that makes the decision.”</p>
R-1	<p>“I make sure that the job advertisements are published, but also that the company is presented attractively as an employer in the various media [...]. For example, I spend a lot of time at universities and higher education institutions [...] where I present the company’s employee brand. This can take the form of job fair appearances, but it can also be on a smaller scale by offering workshops or case studies, guest lectures at universities [...] to present this job profile in an attractive way. When it comes to marketing measures, it’s also my job to make sure that, especially now that I’ve put my focus on IT, IT job postings are marketed using various measures [...] or work together with external providers who then take care of this cross-media marketing”</p>

ID	Task description
R-2	<p>“I’m responsible for university marketing and various employer branding measures [...] My main task is to develop and oversee formats where we come into contact with our target group. And that often happens in the form of events where we cooperate with various target group-specific associations, such as student management consultancies, but also university chairs, in order to be able to offer target group-specific content and present ourselves as an employer. First and foremost, these are employer branding measures that are intended to help us secure our reputation on the employer market in the long term, but of course at the end of the day they are also intended to help keep the number of applications at a high level.”</p>
R-3	<p>“I’m actually involved in employer branding activities [...] If someone applied, he or she would end up with me, I would do the pre-screening on the basis of pre-defined criteria that were discussed with the department, and then it would be determined if this is an eligible candidate. [...] Then I would discuss together with the department, who would be involved in the interviews and would accordingly accompany the candidate end-to-end in the process and would ultimately, if necessary, insert another recruiting interview, but normally it is the department that is briefed by me for these interviews and is able to conduct these interviews from the marketing aspect and present a successful image of the company”.</p>
R-4	<p>“I’m responsible for the entire topic of ‘Candidate Relationship Management’. That is [...] the intermediate step between a potential candidate having heard something about the company or having had initial contact with the company, and the final step of hiring him or her as a new employee. [...] For example, someone has done an internship and performed very well, and we want to stay in contact with him or her and then include him or her in our talent retention program or intern retention program. The tasks here are actually to carry out various retention measures of different kinds with the aim of winning someone as a new employee. Using various means, be it classic newsletters, physical or digital events, various goodies for program participants, personal contacts, a shortened recruiting process and the like.”</p>

Table A1: Statements regarding the responsibilities of the interview participants in the groups of *consultants* and *recruiters* in the recruiting process. Identified key words stated in Table 4.1 are **bolded**.

Interview Guides

Interview Guides *Applicants' Perspective*

Interview Guide – Bewerber Perspektive

Befragte/r	
Ort / Art der Befragung	
Datum	
Dauer	

Fragenblock	Nr.	Frage	Ergänzende Fragen
<i>Einverständniserklärung für Interviewteilnahme und Aufzeichnung erfragen.</i>			
Angaben zur Person	0-1	Höchster Bildungsabschluss	
	0-2	Aktueller Beruf / Berufsbezeichnung	
	0-3	Berufserfahrung in Jahren	
	0-4	Alter	
	0-5	Geschlecht	
<i>Die Masterarbeit analysiert den Einfluss der digitalen Transformation und digitaler Technologien auf den Recruiting-Prozess. Besonders durch die Covid-19 Pandemie wurde die Nutzung digitaler Technologien im Recruiting-Prozess rapide vorangetrieben. Die Interviews sollen Einblicke in die Arbeit und Arbeitsweise in der Recruiting-Abteilung geben und insbesondere, wie diese sich im Rahmen der digitalen Transformation verändert.</i>			
Einführung	1-1	Sind sie aktuell bzw. wann waren Sie das letzte Mal auf Jobsuche?	
	1-2	Wie würden Sie ihre Einstellung gegenüber neuen Technologien beschreiben?	Warum kommen Sie zu dieser Einschätzung? Unterscheidet sich ihre Einstellung zu neuen Technologien im privaten und beruflichen Umfeld?

Fragenblock	Nr.	Frage	Ergänzende Fragen
	1-3	Waren Sie bereits bei Digitalisierungsprojekten involviert?	Welche? Waren diese erfolgreich?
<p><i>Überleitung zum nächsten Fragenblock. Definition Recruiting: Unternehmensfunktion, um Jobsuchende auf das Unternehmen aufmerksam zu machen, sie dazu zu bringen sich zu bewerben und die Bewerber anschließend zu evaluieren und den/die Bewerber/in mit den besten Qualifikationen und der besten Eignung für den Job und das Unternehmen auszuwählen.</i></p>			
Recruiting-Prozess	2-1	Beschreiben Sie den Recruiting-Prozess, wie Sie ihn in der Vergangenheit erlebt haben.	
<p><i>Eventuell anschließend Definition des Recruiting-Prozesses / Vorstellung des Hiring Funnels, um ein gemeinsames Verständnis zu ermöglichen, sofern keine ausreichend gute Beschreibung in Frage 2-1 gegeben wurde.</i></p> <ol style="list-style-type: none"> 1) <i>Informing & Attracting</i> 2) <i>Screening & Shortlisting</i> 3) <i>Assesment & Interviews</i> 4) <i>Selection & Job Offer</i> 			

Fragenblock	Nr.	Frage	Ergänzende Fragen
	2-2	An welchen Recruiting-Veranstaltungen / Events haben Sie teilgenommen.	Haben diese virtuell oder in Präsenz stattgefunden? Kennen Sie weitere Arten von Recruiting Veranstaltungen? Welche dieser Veranstaltungen
	2-3	Haben Sie Veränderungen im Recruiting-Prozess in den letzten Jahren – auch vor der Covid-19 Pandemie – wahrgenommen?	Warum sind diese Änderungen eingetreten?

Definition digitaler Technologien: Digitale Technologies verarbeiten Informationen auf digitale (nicht analoge) Art und Weise. Häufig werden sie auch als Informationstechnologie (IT) bezeichnet. Darunter fallen sämtliche (Computer-)Programme, die Verarbeitung, Austausch und Speicherung von Informationen ermöglichen.

Fragenblock	Nr.	Frage	Ergänzende Fragen
Nutzung digitaler Technologien im Recruiting-Prozess	3-1	Welche digitalen Technologien wurden in den Recruiting-Prozessen genutzt, die Sie durchlaufen haben?	Wie haben Sie die Nutzung dieser Technologien empfunden?
	3-2	Beschreiben Sie Vorteile, die sich, Ihrer Meinung nach, durch die Nutzung digitaler Technologien im Recruiting-Prozess ergeben.	
	3-3	Beschreiben Sie Nachteile, die sich, Ihrer Meinung nach, durch die Nutzung digitaler Technologien im Recruiting-Prozess ergeben.	

Fragenblock	Nr.	Frage	Ergänzende Fragen
	3-4	Beschreiben sie konkrete Probleme, auf die sie bei der Nutzung digitaler Technologien beim Recruiting gestoßen sind.	
	3-5	Was sind Ihre Erwartungen wie digitale Technologien den Recruiting-Prozess in Zukunft weiter verändern werden?	
	3-6	Beschreiben Sie Ihre Wünsche bzw. Anforderungen an die digitalen Technologien, die im Recruiting eingesetzt werden.	Welche Anforderungen müssen digitale Technologien erfüllen, damit sie diese als nützlich empfinden würden?

Fragenblock	Nr.	Frage	Ergänzende Fragen
	3-7	Welche Bereiche / welche Events / welche Veranstaltungen im Recruiting-Prozesse eignen sich, ihrer Meinung nach, besonders dafür durch digitale Technologien unterstützt zu werden?	Warum?
	3-8	Welche Bereiche / welche Events / welche Veranstaltungen im Recruiting-Prozesse eignen sich, ihrer Meinung nach, weniger dafür durch digitale Technologien unterstützt zu werden.	Warum?
<p>Offener Teil. Weitere Anmerkungen, die der/die Interviewpartnerin machen möchte.</p>			

Interview Guides Company's Perspective (*Consultants and Recruiters*)

Interview Guide – Rekrutier Perspektive

Befragte/r	
Ort / Art der Befragung	
Datum	
Dauer	

Fragenblock	Nr.	Frage	Ergänzende Fragen
<i>Einverständniserklärung für Interviewteilnahme und Aufzeichnung erfragen.</i>			
Angaben zur Person	0-1	Höchster Bildungsabschluss	
	0-2	Berufsbezeichnung	
	0-3	Berufserfahrung in Jahren	
	0-4	Weitere Funktionen innerhalb der Organisation	
	0-5	Betriebszugehörigkeit in Jahren	
	0-6	Alter	
	0-7	Geschlecht	
<i>Die Masterarbeit analysiert den Einfluss der digitalen Transformation und digitaler Technologien auf den Recruiting-Prozess. Besonders durch die Covid-19 Pandemie wurde die Nutzung digitaler Technologien im Recruiting-Prozess rapide vorangetrieben. Die Interviews sollen Einblicke in die Arbeit und Arbeitsweise in der Recruiting-Abteilung geben und insbesondere, wie diese sich im Rahmen der digitalen Transformation verändert.</i>			
Einführung / Allgemeiner Teil zu digitaler Transformation	1-1	Wie würden Sie ihre Einstellung gegenüber neuen Technologien beschreiben?	Warum kommen Sie zu dieser Einschätzung? Unterscheidet sich ihre Einstellung zu neuen Technologien im privaten und beruflichen Umfeld?

Fragenblock	Nr.	Frage	Ergänzende Fragen
	1-2	Waren sie schon bei Digitalisierungsprojekten involviert?	Welche? Waren diese erfolgreich?
<i>Überleitung zum nächsten Fragenblock: Recruiting ist das zentrale Thema meiner Masterarbeit. Daher widmet sich der nächste Fragenteil dem Recruiting-Prozess im Allgemeinen bevor wir anschließend zur Nutzung digitaler Technologien im Recruiting-Prozess kommen.</i>			
Recruiting-Prozess	2-1	Beschreiben Sie den Recruiting-Prozess, wie er aktuell im Unternehmen gelebt wird.	
	2-2	Beschreiben Sie ihre Aufgabe im Recruiting-Prozess.	

Fragenblock	Nr.	Frage	Ergänzende Fragen
	2-3	Welche Veranstaltungen / Events werden im Recruiting-Prozesses eingesetzt?	
	2-4	Wie findet die Auswahl von Kandidaten statt?	Welche Kriterien werden angewendet? Welche Termine / Gespräche o.ä. finden statt.
	2-5	Wie hat sich der Recruiting-Prozess auf Grund der Covid-19 Pandemie und damit verbundenen Social Distancing Maßnahmen aber auch davor geändert?	Warum sind diese Änderungen eingetreten?

Fragenblock	Nr.	Frage	Ergänzende Fragen
<p><i>Definition digitaler Technologien:</i></p> <p><i>Digitale Technologien sind Technologien zur Verarbeitung von Informationen auf digitale (nicht analoge) Art und Weise. Häufig werden sie auch als Informationstechnologie (IT) bezeichnet. Darunter fallen sämtliche (Computer-)Programme, die Verarbeitung, Austausch und Speicherung von Informationen ermöglichen.</i></p>			
Nutzung digitaler Technologien im Recruiting-Prozess	3-1	Entlang des Recruiting-Prozess, welche digitalen Technologien werden aktuell genutzt?	Warum wurde sich für diese digitalen Technologien entschieden?
	3-2	Gibt es digitale Technologien, deren Nutzung im Recruiting-Prozess geplant ist?	Wenn ja, welche?

Fragenblock	Nr.	Frage	Ergänzende Fragen
	3-3 & 3-4	Aus Ihrer Sicht, welche Vorteile und welche Nachteile bietet die Nutzung digitaler Technologien im Recruiting-Prozess?	
	3-5	Beschreiben sie konkrete Probleme , auf die Sie bei der Nutzung digitaler Technologien im Recruiting gestoßen sind.	
	3-6	Was sind ihre Erwartungen daran wie digitale Technologien den Recruiting-Prozess in Zukunft weiter verändern werden.	

Fragenblock	Nr.	Frage	Ergänzende Fragen
	3-7	Beschreibe sie ihre Anforderungen und Wünsche an digitale Technologien zur Unterstützung des Recruiting-Prozesses.	Gerne ganz offen Wünsche und Anforderungen formulieren auch in Bezug auf aktuell genutzte Systeme? Welche Anforderungen müssen digitale Technologien erfüllen, damit sie diese als nützlich empfinden würden?
	3-8	Welche Bereiche / welche Events entlang des Recruiting-Prozesses eignen sich besonders dafür durch digitale Technologien unterstützt zu werden?	Und welche eignen sich weniger? Warum?
Unternehmens- und Umwelteinflüsse (Kontext von Recruiting)	4-1	Welchen Stellenwert kommen Recruiting-Aktivitäten im Unternehmen zu?	

Fragenblock	Nr.	Frage	Ergänzende Fragen
	4-2	Wie ist das Verhältnis von Unternehmensstrategie und Recruiting-Strategie?	
	4-3	Inwieweit wirkt sich der steigende Wettbewerb um qualifizierte Mitarbeiter – Stichwort „War for Talents“ – auf die Recruiting-Aktivitäten aus.	
	4-4	Beschreiben sie konkrete Maßnahmen, wie auf den „War for Talents“ reagiert wird.	
Offener Teil. Weitere Anmerkungen, die der/die Interviewpartnerin machen möchte.			