

# iscte

INSTITUTO  
UNIVERSITÁRIO  
DE LISBOA

---

## **Factors Influencing the Acceptance of Onboarding Technology – A Case Study at SAP Portugal**

Sara Wellhaeusser

Master of Science in Management

Supervisor:

PhD Bráulio Alexandre Barreira Alturas, Associate Professor, Department of Information Science and Technology, Iscte – Instituto Universitário de Lisboa (University Institute of Lisbon)

November, 2020





BUSINESS  
SCHOOL

---

Department of Marketing, Strategy and Operations

**Factors Influencing the Acceptance of Onboarding Technology –  
A Case Study at SAP Portugal**

Sara Wellhaeusser

Master of Science in Management

Supervisor:

PhD Bráulio Alexandre Barreira Alturas, Associate Professor, Department of Information Science and Technology, Iscte – Instituto Universitário de Lisboa (University Institute of Lisbon)

November, 2020



## **Acknowledgements**

I am deeply grateful that I had the support of these three main actors:

1. Thank you to my impeccable thesis advisor associate professor PhD Bráulio Alexandre Barreira Alturas. The door to his office was always open whenever I had a question about my research or writing. He allowed this paper to be my own work but steered me in the right direction whenever I needed it.
2. I would also like to thank the experts who were involved in my interviews. Without their insightful comments, the fruitful outcomes of this research would have not been possible.
3. My appreciation also goes out to my family and friends for their encouragement and support all through my studies.

Dankeschön & obrigada



## **Resumo**

As primeiras impressões contam - para impulsionar a experiência inicial, a tecnologia de integração é inevitável. O objetivo foi explorar o estado da integração de novos colaboradores na SAP, a tecnologia usada e os fatores de aceitação. Para o estudo empírico, um desenho de pesquisa qualitativa foi escolhido. Os dados recolhidos foram analisados numa abordagem abdução-temática. Padrões nos dados foram combinados com modelos publicados, tendo-se revelado novos fatores. A SAP executa atividades de integração (in)formais aplicando SuccessFactors. Os utilizadores percebem a tecnologia como intuitiva e fácil de usar. Objetivos de conformidade, esclarecimento, cultura e conexão são cumpridos. Além disso, os resultados sugerem que os fatores: características do utilizador, comportamentos, esforços organizacionais e experiência do utilizador influenciam a aceitação da tecnologia de integração. Do estudo resultou um modelo conceptual de aceitação da tecnologia de integração. É demonstrado que a adoção é impulsionada por modelos de trabalho remotos, globalização e utilidade percebida da tecnologia. Considerando que uma lacuna físico-digital, processos de integração muito complexos e, portanto, projetos de solução impraticáveis, impedem sua aceitação. Fatores de sucesso, como a combinação inteligente de vários elementos, uma transição multi-ator, construção de capacidade educacional e a percepção da integração como um processo iterativo têm um efeito auxiliar na aceitação antecipada da tecnologia. Este estudo contribui para a pesquisa académica, fornecendo um modelo a ser testado quantitativamente em diversos ambientes. Além disso, o estudo revela implicações práticas para o desenvolvimento e gestão de tecnologia de integração quer numa perspetiva do utilizador, quer do fornecedor da tecnologia.

**Palavras-Chave:** Modelo de Aceitação de Tecnologia (TAM); Socialização Organizacional; Tecnologia de integração; Inovação de recursos humanos; Fatores de sucesso SAP.

**Classificação JEL:** M15 – IT Management, O15 – Human Resources





## **Abstract**

First impressions count - to boost a newcomer's initial experience, technology for onboarding is unavoidable. The goal was to explore the status of SAP's onboarding, used technology, and generic factors of acceptance. Due to its empirical novelty, a qualitative research design was chosen to unearth new insights into the subject. The data retrieved from a case study at SAP Portugal was analyzed in an abductive-thematic approach. Patterns in the data were matched to pre-discussed models, furthermore, revealed new factors. SAP Portugal executes (in)formal onboarding activities applying its own solution SuccessFactors. The users perceive the technology as intuitive and easy to use. Goals of compliance, clarification, culture, and connection are met. Moreover, findings suggest that the factors: user characteristics, behaviors, organizational efforts, and user experience have an influence on the acceptance of onboarding technology. A conceptual Onboarding Technology Acceptance Model derived from the study. The adoption is shown to be driven by remote working models, globalization, and perceived usefulness of the technology. Whereas a physical-digital gap, too complex onboarding processes, hence, impracticable solution designs, impede its acceptance. Success factors such as the smart combination of multiple elements, a multi-actor conviction, educational capacity building, and the perception of onboarding as an iterative process have an auxiliary effect on the technology's anticipated acceptance. This study contributes to academic research by providing a model to be quantitatively tested in miscellaneous onboarding settings. Furthermore, the study discloses practical implications for the development and management of onboarding technology from a user and provider perspective.

**Keywords:** Technology Acceptance Model (TAM); Organizational Socialization; Onboarding Technology; Human Resource Innovation; SAP SuccessFactors.

**JEL Classification:** M15 – IT Management, O15 – Human Resources



## Resümee

Erste Eindrücke zählen. Um die Eindrücke eines Neuankömmlings zu verbessern, sind Technologien von großer Unterstützung. Ziel war es, den Status des Onboardings von SAP, die verwendete Technologie und allgemeine Akzeptanzfaktoren zu untersuchen. Aufgrund seiner empirischen Neuheit wurde ein qualitatives Forschungsdesign angewandt, um neue Erkenntnisse zu gewinnen. Die aus einer Fallstudie bei SAP Portugal erhobenen Daten sind in einem abduktiv-thematischen Ansatz analysiert. Muster in den Daten wurden mit bereits diskutierten Modellen abgeglichen, darüber hinaus wurden neue Faktoren festgestellt. SAP Portugal setzt (in)formale Onboarding-Aktivitäten unter Anwendung seiner eigenen Softwarelösung *SuccessFactors* um. Benutzer nehmen die Technologie als intuitiv und einfach zu bedienen wahr. Die Ziele hinsichtlich Compliance, Aufklärung, Kultur und Vernetzung werden unterstützt. Darüber hinaus deuten die Ergebnisse darauf hin, dass die Faktoren Benutzermerkmale, -verhalten, Organisationsaufwand und *User Experience* einen Einfluss auf die Akzeptanz der Onboarding-Technologie haben. Ein konzeptionelles Onboarding-Technologie-Akzeptanzmodell, wurde aus der Studie abgeleitet. Es zeigt sich, dass die Akzeptanz durch remote Arbeitsmodelle, Globalisierung und der wahrgenommenen Nützlichkeit der Technologie getrieben wird. Während ein physisch-digitaler Spalt, zu komplexe Onboarding-Prozesse und damit impraktikable Lösungsdesigns die Akzeptanz der Technologie behindern. Erfolgsfaktoren wie die intelligente Kombination mehrerer Elemente, Überzeugung involvierter Akteure, Schulungen und Wahrnehmung von Onboarding als iterativer Prozess wirken sich förderlich auf die zu erwartende Akzeptanz der Technologie aus. Diese Studie leistet einen Beitrag zur akademischen Forschung, indem sie ein Modell liefert, das in verschiedenen Situationen des Onboarding quantitativ getestet werden kann. Darüber hinaus zeigt die Studie praktische Implikationen für die Entwicklung und das Management der Onboarding-Technologie aus Nutzer- und Anbietersicht auf.

**Schlüsselwörter:** Technologie-Akzeptanz-Modell (TAM); Organisatorische Sozialisation; Onboarding-Technologie; Innovation im Personalbereich; SAP SuccessFactors

**JEL-Klassifizierung:** M15 - IT-Management, O15 – Human Resources



<b>Index</b>	
<b>Acknowledgements</b>	<b>i</b>
<b>Resumo</b>	<b>iii</b>
<b>Abstract</b>	<b>v</b>
<b>Resümee</b>	<b>vii</b>
<b>Index</b>	<b>ix</b>
<b>Tables Index</b>	<b>xi</b>
<b>Figures Index</b>	<b>xiii</b>
<b>List of Abbreviations</b>	<b>xv</b>
<b>1 Introduction</b>	<b>1</b>
<b>2 Theoretical Background</b>	<b>5</b>
2.1 <i>Onboarding</i>	5
2.1.1 Onboarding Concept	5
2.1.2 Onboarding Process	6
2.1.3 Process Model of Socialization	9
2.1.4 Challenges in Onboarding	15
2.2 <i>Technology Acceptance Model</i>	16
2.3 <i>Technology in Onboarding</i>	17
<b>3 Methodology</b>	<b>19</b>
3.1 <i>Research Questions</i>	19
3.2 <i>Research Design</i>	19
3.3 <i>Sampling</i>	20
3.3.1 Sampling Technique	21
3.3.2 Sample Characteristics	21
3.4 <i>Data Collection</i>	22
3.5 <i>Data Analysis</i>	23
<b>4 Findings</b>	<b>27</b>
4.1 <i>State of the Art of SAP's Onboarding Process and Technology</i>	27
4.1.1 Onboarding Process	27

4.1.2 Technology Acceptance Model and SAP’s Onboarding Technology	34
4.2 <i>Factors Influencing the Acceptance of Onboarding Technology</i>	39
4.3 <i>Conceptual Onboarding Technology Acceptance Model</i>	44
4.4 <i>Drivers and Barriers</i>	47
4.5 <i>Future Scenario</i>	48
<b>5 Discussion</b>	<b>51</b>
5.1 <i>Understanding the Role of Technology for Onboarding</i>	52
5.2 <i>Balancing Drivers and Barriers</i>	53
5.3 <i>Capturing the Bigger Picture</i>	56
<b>6 Implications</b>	<b>59</b>
6.1 <i>Theoretical Implications</i>	59
6.2 <i>Practical Implications</i>	60
<b>7 Limitations</b>	<b>63</b>
<b>8 Conclusion and Future Research</b>	<b>65</b>
<b>Bibliography</b>	<b>xvii</b>
<b>Annexes</b>	<b>xxiii</b>
<b>Annex A: Interview Protocol</b>	<b>xxiii</b>
<b>Annex B: Data Structure</b>	<b>xxiv</b>

## Tables Index

Table 1: Six Dimensions of Organizational Socialization Tactics (Jones, 1986; Kraut et al., 2010; van Maanen & Schein, 1979).....	12
Table 2: Sample Characteristics .....	22
Table 3: Structure Onboarding Activities at SAP Portugal.....	30
Table 4: Overview Benefits of Features in SuccessFactors .....	33
Table 5: Top Four Qualities of PEOU in SuccessFactors .....	37
Table 6: Barriers in Accepting Onboarding Technology .....	47
Table 7: Drivers in Accepting Onboarding Technology .....	48





## Figures Index

Figure 1: A Summary Process Model of Socialization (Bauer & Erdogan, 2011, p. 52) .....	9
Figure 2: Original Technology Acceptance Model (Davis, 1989).....	17
Figure 3: Adapted Thematic Analysis Process Guide (Braun & Clarke, 2006).....	24
Figure 4: Categories and Codes Research Question 1 .....	25
Figure 5: Categories and Codes Research Question 2 .....	26
Figure 6: Conceptual OTAM .....	46
Figure 7: Consolidated Conceptual OTAM .....	46



## **List of Abbreviations**

AU – Actual Use

HR – Human Resources

IT – Information Technology

MS - Microsoft

NSC – Near Shore Center

OB - Onboarding

OBT – Onboarding Technology

OTAM – Onboarding Technology Acceptance Model

PEOU – Perceived Ease of Use

PU – Perceived Usefulness

SAP – Systems, Applications, and Products

TAM – Technology Acceptance Model

UX – User Experience



# 1 Introduction

Rivalry among organizations has gained in significance for one of the most highly coveted resources on the market: talented employees. Unfortunately, several hires distance themselves from their new organization due to a poor initial experience. With ineffective onboarding, managers suffer to guarantee an employee's first months to be welcoming, stimulating, and productive. Data has shown that nearly 33% of new employees search for a new job within their first six months on the job, the general duration to reach full productivity can be up to eight months, and in the scenario of employee turnover estimated costs fluctuate between 100% and 300% of the replaced employee's salary (Harvard Business Review, 2015). The Boston Consulting Group and the World Federation of People Management Associations emphasize in a study that onboarding of new hires is the second biggest contributor to a company's success, including revenue growth and profit margin (BCG & WFPMA, 2012). Onboarding - a critical part of the employment life cycle, despite the direct chance to effectively introduce them and to set them up for future success (Depura & Garg, 2012). The problem? Onboarding does not constantly meet its expectations.

First impressions count, and a long list of paperwork to be filled out and no equipment ready may not guarantee the best start. Certainly, the welcoming of a new employee is a hassle and tedious work. The process is in need of manual tasks, paperwork, not to mention, the involvement of a great amount of people and resources, hence, having an immediate effect on the motivation and satisfaction of these individuals (Ayehu, 2016). Furthermore, time is a valuable good when onboarding new employees. The faster the new hire is able to integrate, contribute, and perform productively within the new work environment, the faster the organization will retrieve from its investment of bringing the new employee in. Lastly, onboarding has the goal to communicate the organization's vision and mission through a series of trainings and orientation programs, with the ancillary effect to push the socialization between the organization and the new employee (Zidean & Joob, 2020).

Hereby, technology can easily improve the onboarding process. Seeing it as a next-generation platform which can eliminate stone-aged paper forms and printed employee handbooks. Smoothly transitioning the process through advances such as paperless, and mobile-friendly forms, video introductions, digital training, and using big data and analytics to generate onboarding metrics (Entrepreneur, 2016). Learning and development may be triggered best

through “experimental learning” and interrelations with co-workers. In this connection, digital tools allow new hires to grow in a speedy, practical and actionable manner, whilst fostering a streamlined communication across the organization (Harvard Business Review, 2015). Socialization between organizational members can be addressed through gamification, chats, and social networking platforms. With the user experience in mind, new age technologies build a bridge to unlock tremendous value from the transparent, free flow of information (Depura & Garg, 2012). Through the implementation of a digitalized onboarding process, organizations win the possibility to increase employee engagement and retention in a significant way through an efficient and effective, well-designed onboarding program (Depura & Garg, 2012).

The purpose of this study is to unearth the speculations about the potential of onboarding technology and answer the research question ‘*What are the main factors of acceptance of onboarding technology?*’. Exploring the drivers and barriers of factors that occur within users and experts at the Portuguese location of the company. To fully explore the factors of acceptance of onboarding technology, following objectives are set:

1. To outline the ***current state*** of knowledge and understanding of onboarding and the usage of technology at SAP Portugal.
2. To investigate ***factors that influence*** the acceptance and usage of onboarding technology.
3. To identify ***obstacles impeding and drivers facilitating*** the acceptance and usage of onboarding technology.
4. To critically analyze the ***behavior, characteristics*** and ***organizational efforts*** towards onboarding technology, considering ***relevant theoretical frameworks***; and
5. To suggest ***recommendations for future*** action that can help to increase and improve the acceptance and usage of onboarding technology in adopting organizations.

This research specifically focuses on a human resource and IT perspective in a technological environment, requiring the involvement of multiple actors and innovative approaches. Drawing on six semi-structured interviews with human resource experts, new hires, and technology consultants that interact with onboarding technologies. Exploring the innovation’s potential, as well as drivers and barriers affecting its user acceptance. By following a thematic theory approach (Braun & Clarke, 2006; Coffey & Atkinson, 1996; Dubois & Gadde, 2002; Yin, 2013), a conceptual model is developed. The framework summarizes the factors of influence in

the acceptance of onboarding technology found in this study, as well as relevant factors of Davis' (1989) Technology Acceptance Model (TAM) and Bauer and Erdogan's (2011) Process Model of Socialization. Hence, findings of the study contribute to prior research, in addition to examining the path that still needs to be taken to unfold the potential of onboarding technology. This study creates a foundation for further empirical research and derives important implications for businesses and solution development.

This research is structured as follows. First, the concepts of onboarding, the Technology Acceptance Model by Davis (1989) and the usage of technology for the onboarding process are described. Next, the applied qualitative research methodology is outlined. Followed by an introduction of the application case of SAP SE at their site in Portugal. After describing the findings of the empirical research, the contributions of the study are discussed and related to the existing literature. Theoretical and practical implications for research, managers and other stakeholders are then presented, followed by the limitations of the study. Finally, the paper concludes by suggesting further research avenues.





## **2 Theoretical Background**

Academic literature has paid attention to onboarding and the TAM in recent years, focusing on various areas. The following chapters review the relevant concepts and definitions of this study's subject, retrieved from scientific papers to provide an understanding of the research context. First, the key aspects of onboarding are described. Next, literature on the Technology Acceptance Model and its expanded version are contributed, followed by a review of onboarding in its relation to technology.

### **2.1 Onboarding**

Bauer (2010) highlights that successful onboarding is the key component of any human resource management strategy. To ensure the advantage of a costly recruiting process, business leaders must understand that effectively incorporating new hires is essential to ensure their success. The following paragraphs give an overview of the concept of onboarding, the processes' challenges, as well as outcomes.

#### *2.1.1 Onboarding Concept*

Research corresponds onboarding to socialization, implying that managers and human resource practitioners tend to use the term onboarding exclusively in an organizational setting. Furthermore, literature refers to onboarding as the idea of organizational socialization, orientation and the process of assimilation. Whereas socialization is a process that appears within an individual, contrasting onboarding, which is a set of formal or informal practices, policies, and procedures arranged by managers and HR departments to aid structuring new hire's early experiences and thus, facilitate their socialization (Klein & Polin, 2012).

Going into detail, Bauer and Erdogan (2011, p. 51) state that "organizational socialization, or onboarding, is a process through which new employees move from being organizational outsiders to becoming organizational insiders". Essential attitudes, knowledge, skills, and behaviors are taught to successfully perform in newly assigned tasks. It supports the employee to adjust to the social and performance aspects of the new job, to speed up member's productivity and contribution to the organization. The new hire's nature and behavior, as well as the organization's characteristics and efforts have notable significance in the process of onboarding.

In summary, all actions that will assist a new hire to get to know his or her working community, workplace and actual task. Which includes knowledge about the organization's business idea,

vision, values, and practices, as well as new information about colleagues, customers, and valuable stakeholders (Klein et al., 2015). An onboarding program is designed to support new hires throughout challenges that will be faced within the new job's initial phase. Fagerholm et al. (2013, p. 5) quote onboarding as “the process of helping new hires adjust to social and performance aspects of their new jobs quickly and smoothly”, along with “the induction and assimilation of a new employee into a company or organization”. Next to this, onboarding accelerates new team members' incorporation through an administrative proceeding. Assembled in formal and informal practices, programs and policies of an organization to facilitate newcomer adjustment (Caldwell & Peters, 2018).

Onboarding is linked to valuable outcomes for the new hire (role clarity, job satisfaction, self-confidence, career involvement, career effectiveness, and personal income), not to mention for the organization (productivity, organizational commitment, job involvement, role orientation, and tenure) (Saks & Ashforth, 1997). On the one hand, striving to facilitate newcomer adjustment through decreasing possible newcomer uncertainty, ambiguity, and anxiety. On the other hand, to facilitate the development of social capital and relationships (Klein & Polin, 2012). Facilitation of positive and strong relationships within the new hires and existing organizational members, accounts to the goals of the process. Hereby, a comprehensive onboarding boosts satisfied and engaged employees (Krasman, 2015).

### *2.1.2 Onboarding Process*

Each organization configures its own processes to assist new joiners to acquire skills needed to perform effectively. As well as, the scope in planning and implementing the onboarding process differs from one organization to the other. Varying from a well-structured and systematic plan to a ‘swim or sink’ approach. Nonetheless, both approaches prospect the objective of adjustment to the job environment, meeting requirements, establishing relationships and exceeding job performance through confidence (Bauer, 2010).

The first few days and months of a new hire's experience are vital to ensure high retention. It is proposed to initiate the onboarding process even prior the first day at the office. Beginning with the candidates' acceptance of the offer letter, over the starting day up to the first months in the organization. One might argue to start during the recruitment phase, as the candidates yet are in a state of excitement and full of expectations towards the new position. Hereby onboarding is not to be confused with orientation, which includes paperwork and other routine tasks (Maurer, 2019). In this study, onboarding is considered to begin from the day of the

signature, till the successful accomplishment of the first year. Assuming the new hire reaches full productivity and becomes a vital part of the organization.

Organizations generally establish a formal onboarding process. From day one, the first week, and follow-ups, the new hire is accompanied by human resources and a pre-developed checklist. To have a direct contact person an onboarding ‘buddy’, in form of a senior colleague, may be assigned. Buddies are essential as they can provide answers to questions which new employees hesitate to ask managers (Bauer & Erdogan, 2011). Another key player is management. A warm welcome to show support, can be highly appreciated by the new joiner. During the first crucial days, managers guarantee that required resources are available, clarify roles and responsibilities, encourage the newcomer, and arrange catch-up meetings (Bauer, 2010).

Onboarding can be performed in a formal or informal process, depending on the organization. Either a structured process of socialization activities or a more flexible approach is followed. Examples for formal, in the sense of organizational socialization, are internships, professional schools and apprenticeships, whereas informal socialization tactics focus on a laissez-faire approach where new roles are learned via trial and error (van Maanen & Schein, 1979). Zahhly and Tosi (1989, p.61) classify informal and formal onboarding as following:

- ***Informal onboarding*** refers to the process by which an employee learns about his or her new job without an explicit organizational plan.
- ***Formal onboarding*** refers to a written set of coordinated policies and procedures that assist an employee in adjusting to his or her new job in terms of both tasks and socialization.

Research indicates that organizations with formal, step-by-step programs for new hires to provide task, behavior and norm clarity within the organization are more effective than the ones without (Bauer et al., 2007). Small and medium enterprises are characterized by less hierarchical levels, more flattened structures and therefore tend to allow more informal and flexible approaches to integrate and supervise their employees. Larger organizations are drawn to formal and standardized processes (Ashford & Nurmohamed, 2012). Written onboarding programs include specifications about the goals, objectives, duties and support for the new joiner. Highly suggested as they serve as a simply distributable formal documents with the possibility of follow-ups. Frequent meetings, face-to-face interaction, as well as the use of technology, such as automated basic forms to track progress, can be implemented in

onboarding. Providing stakeholders with information to adjust initiatives and support according to the new employee's development (D'Aurizio, 2007).

The process of onboarding differs from organization to organization, nonetheless, features overlap and show common attributes. Being comprehensive, structured, and strenuously monitored, the process needs to be customized onto the type of employees and the structures of the organization (Carter, 2015). Stein and Christiansen (2010, p. 64) developed an onboarding concept to display a holistic integration plan. It identifies and links the basic conditions of onboarding with the associated phases and dimensions. Through this linkage clarity arises which dimension should achieve which degree of fulfillment in which phase.

Following the four defined fundamental dimensions of onboarding:

- **Cultural mastery**: Integration into the corporate culture
- **Interpersonal network development**: Establishment of interpersonal networks
- **Early career support**: Early career management
- **Strategy immersion and direction**: Integration into the corporate strategy.

Where the dimensions are based on the following phases:

- **Prepare**: Preparation phase
- **Orient**: Orientation phase
- **Integrates**: Integration phase
- **Excel**: Penetration phase.

Onboarding involves four building blocks, referred to as the 'Four C's' by Bauer (2010, p. 2). The overall onboarding strategy of an organization is determined by the extend it executes each of the four levels.

- **Compliance** is the lowest level and includes teaching employees basic legal and policy-related rules and regulations.
- **Clarification** refers to ensuring that employees understand their new jobs and all related expectations.
- **Culture** is a broad category that includes providing employees with a sense of organizational norms - both formal and informal.

- **Connection** refers to the vital interpersonal relationships and information networks that new employees must establish.

Qualee (2019) archetypes technology for the accomplishment of these levels. Digital sign with a fingertip enables users to access and complete documents online. Providing human resource transparency in the completion process of tasks regarding *compliance*. Throughout the full employee lifecycle crucial organizational information is provided to *clarify* occurring FAQs. For instance, the organization’s mission, vision, and *culture* may be visualized in welcome videos, introduction or introduction presentations. Lastly, chat and communication features empower facile conversations within the organizations, real-time feedback and pulse surveys.

### 2.1.3 Process Model of Socialization

According to Bauer and Erdogan (2011) many factors play a substantial role in the successful socialization of a new employee. Grouped into three categories: New employee characteristics, new employee behaviors, and organizational efforts, all comprised in Figure 1: A Summary Process Model of Socialization. The subsequent paragraphs contain detailed information about each of the categories, the factor adjustment, and the outcomes.

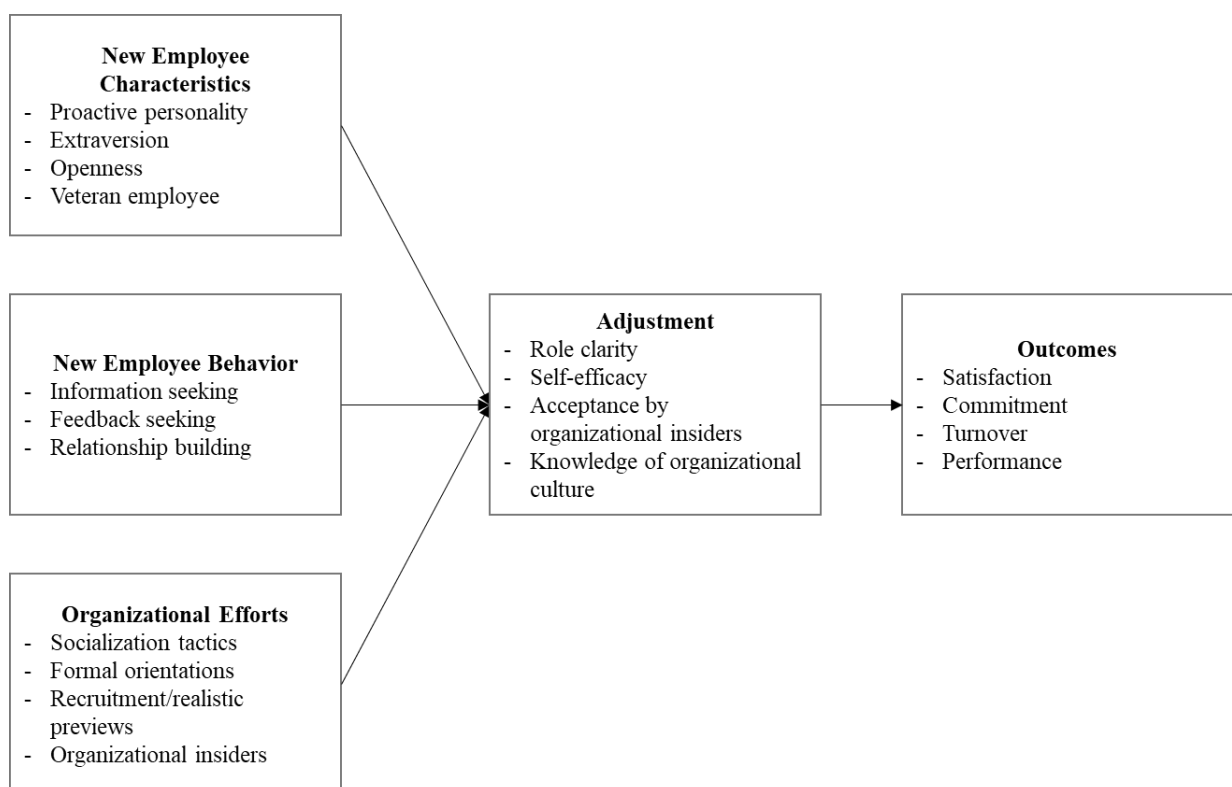


Figure 1: A Summary Process Model of Socialization (Bauer & Erdogan, 2011, p. 52)

As individuals, new employees differ in their backgrounds and personality traits, leading to a unique profile in characteristics. Certainly, the new hires are an active part in their socialization process. Contributing through behaviors, such as information and feedback seeking, leading to a decreased time frame in their adjustment. Furthermore, organizations offer several activities, related to orientation or mentor programs that may facilitate organizational socialization. Technology in onboarding tackles each of these factors differently. The following paragraphs will showcase to which extent this can happen.

#### *New employee characteristics*

New employee characteristics contain proactive personality, personality traits, and the experience of new employees. Below, the relationship of these factors and onboarding are demonstrated.

*Proactive personalities* tend to have an effect on the new hire's career prior the start date, as the trait has been related to the success of the hire's job search (Brown et al., 2006). Showing motivation to learn may translate into behaviors that enhance socialization, likely in clarifying questions to understand how the company works (Major et al., 2006).

As the number of online training opportunities and delivery channels dramatically increase with organizations taking advantage of self-paced, web-based learning courses, personality traits, such as *extraversion*, *openness*, agreeableness, conscientiousness, and neuroticism (Big Five), significant effects on job performance and training proficiency have been demonstrated. For positions that require continuous learning and frequent updating of skills, organizations may wish to target individuals within the hiring process whose personality traits are predictive of the motivation to learn. The utility of training programs and technology may be improved by assessing the extent to which individuals are likely to be self-motivated. Through purpose-built supports (e.g., supervisor, mentor and coworker encouragement), lacks in personality characteristics can be mitigated (Major et al., 2006).

*Experienced employees* are likely to go through a different adjustment process, as for instance recent graduates. Through job-change experience they become able to use their insights from previous jobs to adjust to the new organization (Bauer & Erdogan, 2011). This may also include the established usage of popular office software or operating systems.

### *New employee behaviors*

Organizational socialization counts on the behaviors of the new hires. The onboarding path is faster in its completion when the individual demonstrates behaviors that help clarify what is expected, learns the values and norms, and gains acceptance by the team.

New employees inform themselves about different aspects of their job role, internal procedures, and priorities. Passively they *seek information* through for instance monitoring the environment, viewing the company website, and reading the employee handbook (Bauer & Erdogan, 2011). The demand of information seeking varies over time. Frequently, employees decrease their technical information seeking from colleagues, as their expertise increases (Chan & Schmitt, 2000).

New hires take missteps and actively *seek feedback* to rapidly improve their behaviors according to the company culture and expectations. As organizations progressively implement formal onboarding programs, new hires dampened the desire to ask basic questions. Mentioned programs contain help desks with a line to call, online information centers, and routinely scheduled meetings with crucial stakeholders (Bauer & Erdogan, 2011).

*Relationship building* is the third significant behavior. Issues in forming effective relationships lead as a key failure for new hires to leave the company (Fisher, 2005). Colleagues are able to bound over many activities; informal coffee break talks, participation in after-work activities, or making the effort to connect with their supervisor (Bauer & Erdogan, 2011).

### *Organizational efforts*

Training and orientation of new hires varies from company to company. Differences are shown in their socialization tactics, formal orientation programs, realistic job previews, and the degree of assistance of organizational insiders (Bauer & Erdogan, 2011).

One organization may select a more structured and systematic approach to onboard, whereas others choose to let their new joiner experience the existing norms and expectations by themselves – “Sink or swim” approach. Bauer and Erdogan (2011) commented van Maanen and Schein’s (1979) six dimensions of socialization tactics, whilst Jones (1986) made a distinction of these tactics into institutionalized and individualized, displayed in Table 1.

Table 1: Six Dimensions of Organizational Socialization Tactics  
(Jones, 1986; Kraut et al., 2010; van Maanen & Schein, 1979)

<b>Institutionalized</b>	<b>Versus</b>	<b>Individualized</b>
<b>Collective:</b> Common set of experiences designed to produce standardized responses to situations.	Socialization	<b>Individual:</b> Unique training in isolation from others.
<b>Formal:</b> Segregation from other organizational members and experiences tailored to newcomers.	Program	<b>Informal:</b> On-the-job training to learn role.
<b>Sequential:</b> Clear sequence of experiences or stages.	Training steps	<b>Random:</b> No sequence communicated in advance.
<b>Fixed:</b> Pre-defined timetable.	Sequencing of training	<b>Variable:</b> Timing of role transitions is variable.
<b>Serial:</b> Observation and training from experienced role models, for clear view over organization.	Insider help with adjustment	<b>Disjunctive:</b> Development of own definition of situation and no senior people to observe.
<b>Investiture:</b> Newcomer receive positive feedback confirming their prior identity.	Prior personality	<b>Divestiture:</b> Newcomers receive negative feedback expressing organizational disapproval of their prior identity

*Formal orientation* programs help to introduce the new hire to the company culture, job role and coworkers. Organizations may implement lectures, videos, and written material. As the process can last from a few hours to several months, companies assist themselves with computer-based orientations and intranets to keep track and guarantee consistency throughout geographical disperse (Bauer & Erdogan, 2011). According to Klein and Weaver (2000) and Wesson and Gogus (2005) formal orientation also has an impact on team integration, whereas new hires undergoing computer-based orientations showed a lower understanding of the job



and company as the common face-to-face program. Indicating that different formats of orientations may not substitute each other.

Aiming for the best employee-organization fit, an impeccable *recruiting* practice sheds positive light onto the hiring organization. The new hires perceptions of the quality of the recruitment processes have been linked to benefit socialization outcomes as for instance organizational commitment (Caldwell et al., 1990).

With *realistic job previews* the possibility of needing a replacement for misfits is decreased, as a high level of information may ensure the accurate placement of an open position. If the candidate's profile is not suitable, a model organization uses an innovative technique in which the new hire gets payed to quit the organization after the first week of training if the candidate's profile is no fit (Bauer & Erdogan, 2011).

Allen et al. (2006) list several ways in which mentors can help new hires. For instance, teaching newcomers about the organization, sharing their experiences, providing their advice, helping with job instructions, and offering social support. *Organizational insiders* assist newcomers to become more knowledgeable about their organizations, than without the mentors' help (Ostroff & Kozlowski, 1993).

### *Adjustment*

Newcomer adjustment, or accommodation, implies the degree of how well a new hire is doing as the individual becomes an organizational insider. According to Bauer and Erdogan (2011, p. 57) four key variables accompany a successful transition from outside in:

- *Role clarity,*
- *Self-efficacy,*
- *Acceptance by organizational insiders, and*
- *Knowledge of organizational culture.*

*Role clarity* established itself as a predictor of job satisfaction and organizational commitment within the socialization process. Adjustment is found through the degree of understanding of the employee's role (Adkins, 1995). Lower role conflict hereby fosters a more positive socialization (Bauer et al., 2007).

The level of confidence a new hire reaches and, hence, the ability to master the job, is shown through *self-efficacy*. Next to its positive relationship to socializations' outcomes, such as

organizational commitment, satisfaction, and turnover (Bauer et al., 2007; Kammeyer-Mueller & Wanberg, 2003).

Organizational insiders play an essential role in the information transition process for new hires. Quality relationships and therefore the *acceptance by organizational insiders* trigger social comfortability for the newly hired employee (Bauer & Erdogan, 2011).

A general *knowledge of the organizational culture*, its politics, goals, and values, whilst learning the company's unique language indicate a new employee's successful adjustment to the organization (Klein & Weaver, 2000).

### *Outcomes of onboarding*

Onboarding's key goal is not only to serve as an introduction to the new company, it flowers out in numerous beneficial outcomes for the organization as well as for the new joiner - if done correctly. Main long-term socialization effects display themselves in higher job *satisfaction*, organizational *commitment*, lower *turnover*, and higher *performance* levels (Bauer et al., 2007; Kammeyer-Mueller & Wanberg, 2003).

Not only a competitive salary plays a role in the *satisfaction* of an employee with his or her work, elements such as respect, employee recognition, and empowerment shift the focus away from the monetary component. Employees satisfied with their job, are more likely to deliver and exceed targets set by the employer (Tanwar & Prasad, 2016). Herzberg's (1959) two factor theory of motivators and hygiene factors explains the premise of an onboarding program to be crucial for employee's job satisfaction. Serving as a hygiene factor, whose absence can cause discontent in the hire's satisfaction with the onboarding activities in the new company.

Poor onboarding frequently increases the chance of high *turnover* as new employees feel isolated, are confused, and lack confidence. To counter steer, onboarding programs structure the initial phase and increase the new joiner's length of employment in the company (Bauer, 2010). Socializing a new hire into the organization is an intensive process. Therefore, companies cannot afford to lose employees who underwent an expensive and time-consuming recruiting process. Taking knowledge such as technical skills and competencies with them. A well-designed onboarding program can hereby reduce employee turnover throughout improving the new employee's time-to-productivity ratio (Hall-Ellis, 2014).

Next to the social, onboarding programs also target the *performance* aspect of a new joiner's job task and its expectations. Onboarding accelerates delivery of results. Executed effectively, the new joiner reaches the desired performance and productivity standards faster and therefore reduces costs of employment (Hall-Ellis, 2014).

Observations manifest that a new hire's performance directly relates with the level of *commitment* towards the organization. Highlighting investigations on factors that generate the loyalty of an employee. An employer is more likely to foster loyalty if they act flexible, supportive, and understand the needs of an employee. Experiencing an alignment of their own ideology and vision within the organization's values. Onboarding strives for personal attachment of the newly hired talent (Jagannathan, 2014).

#### 2.1.4 Challenges in Onboarding

In times of baby boomers and job hoppers, it is crucial to recruit and retain good talent, in which onboarding this talent becomes both, a challenge and an opportunity.

Done biweekly or monthly, the availability of the initiation of onboarding processes is limited. *Different joining dates* over the year might come with a waiting time. Meanwhile, new joiners may form opinions which could be challenging to change (Depura & Garg, 2012).

Due to globalization, today's workforce characterizes through a high *geographical distribution*. Making it nearly impossible to set up an unified onboarding event, not only from a commercial but a logistical perspective (Depura & Garg, 2012). In many European countries growth in freelance work has outpaced overall employment growth (Morgan Stanley, 2018). Onboarding should target these hires to feel welcome, enabled, and motivated to perform in their (temporary) assessments. Aiming to keep employees engaged beyond the honeymoon period, avoiding the hangover (Bauer & Erdogan, 2011).

Research has shown that 'lack of *social interaction*' counts as a disadvantage of remote work (Remoters, 2020). As of the current global Covid-19 pandemic, the workforce tends to experience loneliness and isolation. Therefore, it is essential to provide collaborative and connected onboarding processes.

The *new generation workforce* experienced access to social networks, games, mobiles, and the internet from a young age. Exposing them to constant connectivity, provoking potential impatience, and shortened spans of attention. Hence, traditional classroom learning methods are no longer seen as engaging and popular (Depura & Garg, 2012).

High competitiveness in business demands does not allow long training schedules. New joiners need to get up to speed and reach full *productivity* as soon as possible. Due to its repetitive nature, involved onboarding workforce can be utilized in other projects (Depura & Garg, 2012). With an effective use of technology these problems can be mitigated and provide a win-win solution for organizations and employees before day one.

## 2.2 Technology Acceptance Model

Initially introduced by Davis (1989), the Technology Acceptance Model (TAM) became one of the most used models in the examination of user acceptance of information technology. TAM is an adaption of Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA). Developed in a phase in which computer technologies started to replace typewriters and handwritten memos. TAM does not only focus on the technology but the beliefs and perceptions of whether the technology is useful or easy to use (Azidah & Ong, 2020). In fact, a model designed to help explain why users accept and use technology, and which influential factors are elaborated in this process.

The model expands in three main constructs; subjective norms, perceived ease of use and perceived utility (Alturas, 2020). Whereas perceived usefulness (PU) and perceived ease of use (PEOU) are the two key variables. PU is defined as "the degree to which a person believes using a particular system would enhance his or her job performance", whereas PEOU is "the degree of to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 30). Computer usage is governed by intention, which is jointly determined by the individual's attitude towards using the system and its perceived usefulness. In which attitude and usefulness have the potential to affect the intention to actually use the system. Notably, the relationship between usefulness and intention implicates that the individual supposes their job performance increased, inconsiderate of positive or negative feelings (Davis et al., 1992). External variables within the TAM point out a variety of variables such as objective system design characteristics, training, computer self-efficacy, user involvement in design, and the nature of the implementation process (Davis & Venkatesh, 1996). Over time new variables affecting PU, PEOU, and actual use or behavior were sculpted. Commonly listed are: system quality, compatibility, computer anxiety, enjoyment, computing support, and experience (Lee et al., 2003). The original factors of the TAM: external variables, PU, PEOU, Attitude towards Using the system, Behavioral Intention to Use it, and hence, the actual use are to be found in Figure 2.

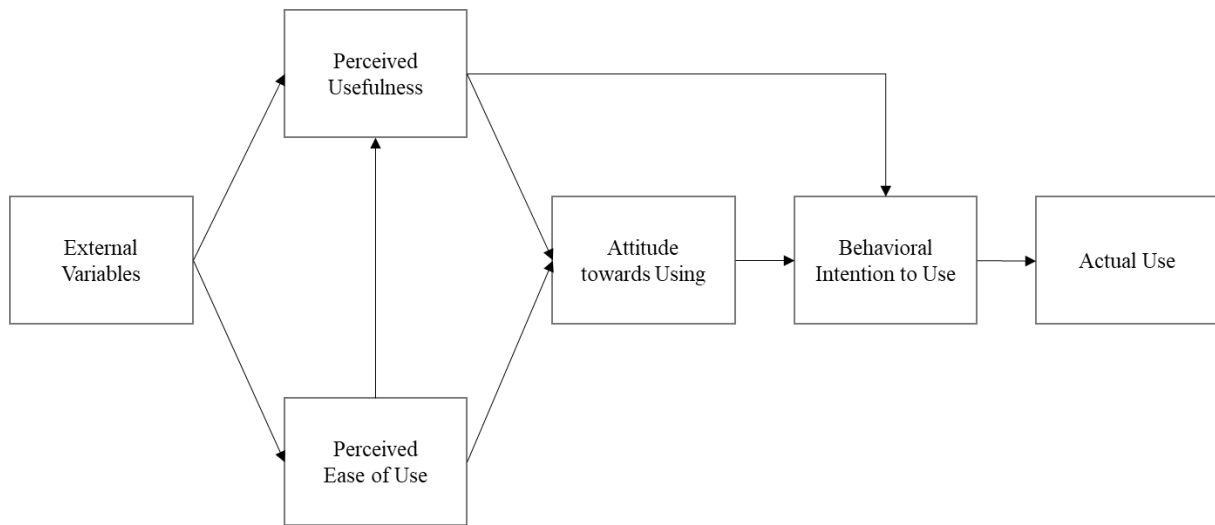


Figure 2: Original Technology Acceptance Model (Davis, 1989).

### 2.3 Technology in Onboarding

Technology can help to facilitate onboarding in numerous ways; coordination and tracking of progress, more efficient processing of paperwork, delivery of training, as well as social networking. Human resource information system programs act as a recordkeeper to ensure communication with newcomers between hiring and start date. Built-in compliance checklists, for instance automated mails, assist in legal and policy matters and pop up when necessary. To track the newcomer’s performance, reports detailing the progress can be generated (Klein & Polin, 2012).

To focus on a warm welcome on the first day, bureaucratic aspects can be handled online beforehand. Not only saving the organization time and costs, also sparing the newcomer time, hassles, and dull initial experiences. One new employee stated that technology used to automate the completion of paperwork allows newcomers to get “to the good stuff right away without sitting there signing your name a thousand times” (Arnold, 2010, p. 75). Guidance and personalized support are centralized in a virtual onboarding tour (SAP SE, 2019). Accompanying the starter through required tasks, next to emphasizing critical next steps along with personal progress.

Next to transferring information, technology is used for nontraditional orientation programs with the help of imbedded computer games and simulations. Tackling specifically the younger generations whilst teaching the skills to make them effective organizational members (Arnold, 2009). Business processes traditionally are designed with the buyer in mind, and therefore tend

to have a poor user experience. Hence, gamification maintains a balance between challenge and skill – engaging the user for hours. Disrupting a variety of business processes through playful mechanics such as badges, leaderboards, and levels (Depura & Garg, 2012).

Social networking innovations provide a platform that allows new hires to socially interact and exchange information with current employees. E-learning environments create an effective and cost efficient learning approach to new and existing employees regarding corporate and task relevant knowledge as well as social graces with organizational members (Ellis & Kuznia, 2014). The free flow of information radically influences user behavior and unlocks significant valuable transparency to the new hires, both facilitated through social platforms. The benefits achievable lead to a new wave of enterprise applications, referred to as the ‘Social Enterprise’ (Depura & Garg, 2012).

Technology facilitates new starters with direct access to relevant information through their mobile devices. Personalized experiences are shared to create comfort and connectedness before the first day. Key content and resources (e.g. office location, support, and meeting calendar) and contacts (e.g. mentors, peers, and teammates) become pre-accessible via the devices (SAP SE, 2019).

The previous chapters reviewed the theoretical background of the relationship between technology and onboarding. The review shows that the consideration of various research streams is necessary to gain an understanding of the study’s subject. The transition to a completely technology-based onboarding process demands multi-actor involvement and changes at all levels. To advance the understanding of onboarding technology’s potential and move towards empirical-grounded insights of the drivers, barriers, and success factors of its applications, more interdisciplinary research is needed.

### **3 Methodology**

This study builds upon the abductive analysis of primary data obtained through six interviews with experts in the human resource environment, newly hired individuals, and consultants for onboarding technology at the globally operating SAP SE. The subsequent chapters provide detailed information regarding the used research method.

#### **3.1 Research Questions**

By exploring the factors of technology use for onboarding from an acceptance perspective, following research questions are intended to be answered:

*"What are the main factors of acceptance of onboarding technology?"*

*RQ1: What is the current state of onboarding and onboarding technology at SAP?*

*RQ2: What factors influence (drivers and barriers) the acceptance of onboarding technology?*

#### **3.2 Research Design**

The research approach of this study is based on two aspects. First, this study's topic is an emerging, mainly unexplored area with practical but little empirical evidence, as the use of technology for organizational socialization purposes has only recently gained traction in research studies (Bauer, 2010; Fagerholm et al., 2013; Zidean & Joob, 2020). Second, the research subject represents a multi-level, process-intensive phenomenon as a technological transition perspective is pursued. It requires the consideration of various related dimensions, for instance institutional drivers and social behaviors. In order to study onboarding in the context of technology acceptance – a phenomenon which is not sufficiently structured or analyzed in current research – a qualitative research design was chosen due to the exploratory nature of the study (Patton, 1989). An abductive research approach is embraced in the collection and analysis of data, in which the researcher moves back and forth between theoretical concepts and field observations. The aim is to increase understanding of both, theory and data through the process. Within this process, researchers obtain the objective to exploit the systemic nature of existing theoretical models to gain new insights to develop theory (Dubois & Gadde, 2002). To overcome the lack of empirical research in onboarding technology, variables and their relationships in the process are investigated through a thematic analysis using a case study (Coffey & Atkinson, 1996; Dubois & Gadde, 2002). Under investigation is the organization

SAP SE, and its firm-owned human resource software SAP SuccessFactors. Case studies are a fit when there is the necessity to point out contemporary events in their natural settings (Benbasat et al., 1987; Yin, 2013). Precisely, single case studies are appropriate when there is the urge to develop or question an established theory (Yin, 2013). Given the limited number of earlier studies in this field, the case of SAP is used to clarify and extend the existing theory on the acceptance of technology (Davis, 1989) and organizational socialization (Bauer & Erdogan, 2011).

Summing up, as the phenomenon at hand holds a high degree of novelty – the abductive, thematic approach is seen as appropriate. The research process starts by diagnosing a specific phenomenon, following the mapping of the phenomenon to broader concepts through an iterative process of ‘theory matching’ between literature and empirical data (Coffey & Atkinson, 1996; Dubois & Gadde, 2002).

To explore the role of technology in onboarding from an acceptance perspective, it is favorable to consult experts instead of solely considering publicly available information (e.g. HR reports, case studies, academic research), as these data sources might grant limited insights into the study subject. By engaging with individuals involved in the research context and developing an understanding of their experience (Corbin & Strauss, 2008), insights about the acceptance of onboarding technology and future potentials, drivers, and barriers are to be generated. Hence, the primary data collection method of this study was semi-structured interviews with experts in the human resource environment, consultants of onboarding technology, and newly hired individuals at the firm. Next to interviews, details regarding the used onboarding technology were sourced via the public available website of SAP SuccessFactors (SAP SuccessFactors, 2020).

The final model is the outcome of the interaction between pertinent theoretical frameworks and the empirical evidence of this case study. Which, according to Stake (1995), served as an instrumental setting which gives insight into an issue and helps improve a theory. The generated model forms a base for further research (Dubois & Gadde, 2002).

### **3.3 Sampling**

A literature-driven thematic analysis using data generated from semi-structured interviews was applied. The method entails purposefully selecting a general sample of individuals who are



assumed to provide the richest insights on the research topic (Coyne, 1997). After collecting data by interviewing a handful of individuals, the analysis starts.

### *3.3.1 Sampling Technique*

This study's focus is set out with the intention to interview experts for onboarding processes in reference to technology. Onboarding technologies are offered by numerous providers (e.g. Shortlist, SAP SuccessFactors, CakeHR, Workday etc). Within this scope, SAP Portugal is used to showcase the usage, service delivery, and production of onboarding technology (SAP SuccessFactors, 2020). Organizations who make use of their technology include large corporations as well as small and medium enterprises. It was assumed that consultants in the field of human resources are best suited to provide rich data and insights into the reality of the research problem as they are the center of activity. To adhere to the concept of theoretical sampling, the initial target sample was broadened by interviewing other stakeholders, namely newly hired employees. This allowed for the inclusion of different perspectives, as the first data analysis showed that human resource experts naturally focus on their organization's perspective. Hence, the inclusion of new hires intended to complement their insights with different perspectives. However, theoretical sampling and saturation, that is, ending the data collection when no new concepts emerge anymore, was partially limited due to a strict time frame (Suddaby, 2006). The case study was selected through an intensive desk research, screening the dominant search engines for organizations that utilize technology in welcoming a new hire. As SAP also provides a technical onboarding solution, the company was seen as a suitable sample.

### *3.3.2 Sample Characteristics*

The case company, SAP SE, is the global market leader in enterprise application software. Founded in Germany 1972, it now engages 101,150 employees from 140+ countries, in 130 different countries (SAP SE, 2020). A vital part of SAP is their cloud-based human capital management software SAP SuccessFactors which was founded in San Francisco in 2001 and is part of SAP's solution portfolio since 2012. More than 7,000 customers, with 120 million users, in 200+ countries utilize SuccessFactors for their onboarding processes (SAP SuccessFactors, 2020). Due to the scope of this study, the data collection was limited to their offices in Portugal. SAP was considered to be an appropriate case study due to the expert view of the in-house consultants on onboarding technology as well as the frequently recurring hiring process of new consultants for their solution delivery center in Portugal.

To draw a holistic picture, the sample includes six interviews with human resource experts, consultants of technology for onboarding and newly hired employees (up to 1 year within the company). The interviewees are seen as individuals who are directly influenced by onboarding technology. The analysis of this study focuses on the organizations' practices and the interviewees' account of the ongoing processes and dynamics. Table 2 gives an overview of the sample.

*Table 2: Sample Characteristics*

<b>No.<sup>1</sup></b>	<b>Interview Length</b>	<b>Interviewee</b>	<b>Area</b>
1	66 min	Senior Consultant	Customer Success
2	22 min	Senior Consultant	Customer Success
3	41 min	Consultant	Customer Success
4	34 min	Solution Advisor	Sales and Presales
5	26 min	<i>New Hire</i>	Customer Success
6	19 min	<i>New Hire</i>	Human Resources

### **3.4 Data Collection**

The interviewees were contacted via email and asked about their interest to participate in the study. This initial contact included information about the study's purpose and explanation of the context. The interview guide was not sent to the participants prior to the interview. After receiving the interviewees' informed consent, six semi-structured interviews with an average duration of 35 minutes, were conducted. The informants were assured anonymity during the complete research process. Due to the current Covid-19 pandemic and the resulting health and safety context, all interviews took place via Microsoft Teams. Finally, the interviews were

<sup>1</sup> For data protection purposes the assigned number does not equal the number in the findings.

audio-recorded, and the key messages were summarized. To ensure coding was solely conducted on the information relevant to this study, off topic comments were removed (Boyatzis, 1998). Interview guides were used to inform the interview conduction, allowing further exploration of concepts not mentioned in the protocol. A copy of the interview protocol is available in Appendix 1. Gathered data and related categories and codes were managed and analyzed with the help of an Excel spread sheet. The categories emerging from these summaries can be found later in this study in Figure 4 and Figure 5, as well as the full data structure in Appendix 2.

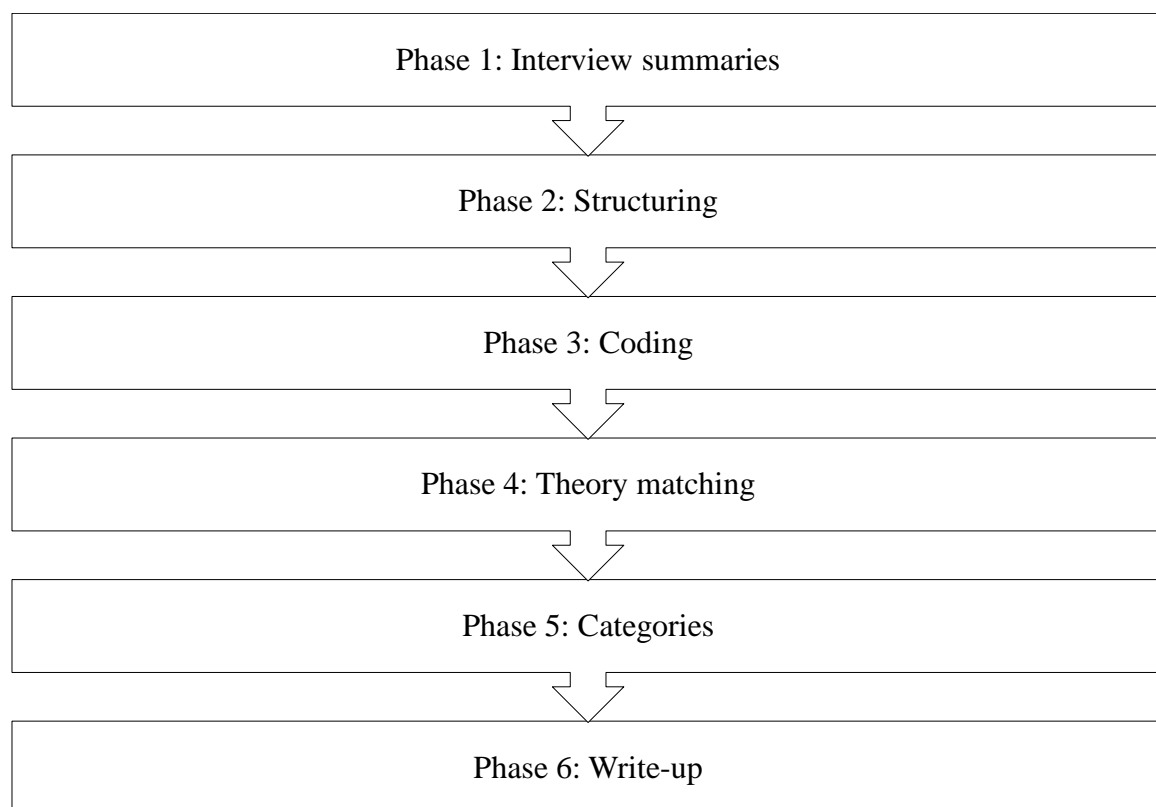
First, the interviews started with questions about the interviewees and their position in the organization. Second, questions about the onboarding process, its technology use, in specific its perceived usefulness, perceived ease of use, and actual use were addressed. After this initial ground setting information, section three explores the factors driving and impeding the acceptance of onboarding technology. Fourth, the interviewees were asked for their input on the prospects of the technology. Finally, the interview ended by asking informants whether anything of relevance was not addressed yet, offering the opportunity for further discussions. Despite being guided by the mentioned broad categories, each interview remained open and followed paths the interviewees wanted to share more information about. Moreover, the interviewer tried not to impose topics or opinions on the interviewees, but to dig deeper to understand the interviewer's questions, examples were mentioned if needed.

### **3.5 Data Analysis**

Yin (2013) highlights the importance of the adoption of a data analysis strategy relying on theoretical propositions. The strategy allows the researcher to streamline the study's material in the light of theoretical propositions. The foregoing theoretical background enables the researcher to follow a clear line in answering the research question through the data collection. With the qualitative nature of this study, a pattern matching analysis approach was chosen. Through patterns the researcher was able to match and compare the data with present theoretical frameworks (Yin, 2013), which lead to the development of a case-specific, adapted Technology Acceptance Model for onboarding technology.

For the analysis, a modified thematic analysis by Braun and Clarke (2006) was applied. Contrasting commonly used qualitative forms of content analysis, as for instance grounded theory (e.g. Glaser & Strauss, 1967), to thematic analysis which proves to be more flexible and independent of theory and epistemology. Serving as a realist method within different theoretical

frameworks, which reports experiences, meaning, and the reality of participants (Braun & Clarke, 2006). The method identifies, analyses, and reports patterns (categories) within data. Braun and Clarke (2006, p. 10) define a category as “capturing something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set”. Within the semantic analysis the analysis organizes and describes the data set in detail. Identifying the data in a deductive ‘top down’ approach regarding the researcher’s theoretical interest in the area (Boyatzis, 1998). An adapted step-by-step guide visualizes the stages that were completed in the data analysis process (Figure 3).



*Figure 3: Adapted Thematic Analysis Process Guide (Braun & Clarke, 2006)*

At first, the recorded interviews’ core arguments were documented. For context and clarification, the audio files can be provided if a non-disclosure agreement will be signed. These interview summaries were screened chronologically. Next, the findings were inserted into an excel sheet and relevant passages were highlighted to help with the coding process. The researcher started to become familiarized with the data. The file follows a structure relating to the questions in the interview protocol. Statements of the participants were mapped to the corresponding questions. This step helped to identify segments and interesting aspects that may form the basic patterns and make initial codes transparent (Braun & Clarke, 2006). Codes in

form of single words or short phrases were used. Similar meanings were mapped to the same code. The process of distributing meanings among codes is based on the research objectives and categorizes the data into a more manageable form. The next stage contains all developed categories and the matching to the pre-discussed literature according to the research questions of this study. Upon establishing all categories, related codes were summarized with a general importance to the research questions. In this stage, categories appear to form a coherent pattern and tell the overall story about the data (Braun & Clarke, 2006). A final write-up of the data analysis was generated.

The use of manual data analysis allowed the researcher to go through the summaries of the interviews and highlight the passages relevant to the topic. Due to economic reasons, computer-aided qualitative data analysis was not used, even though data can be adjusted in an effortless manner (Braun & Clarke, 2006). This approach required categories to audit the raw information collected in regard to pattern identification and refinement. Based on the previous provided literature and in accordance with the research questions, suitable categories and codes were developed. Figure 4 and Figure 5 display the emerged categories and codes of this study in respect of the relevant research question.

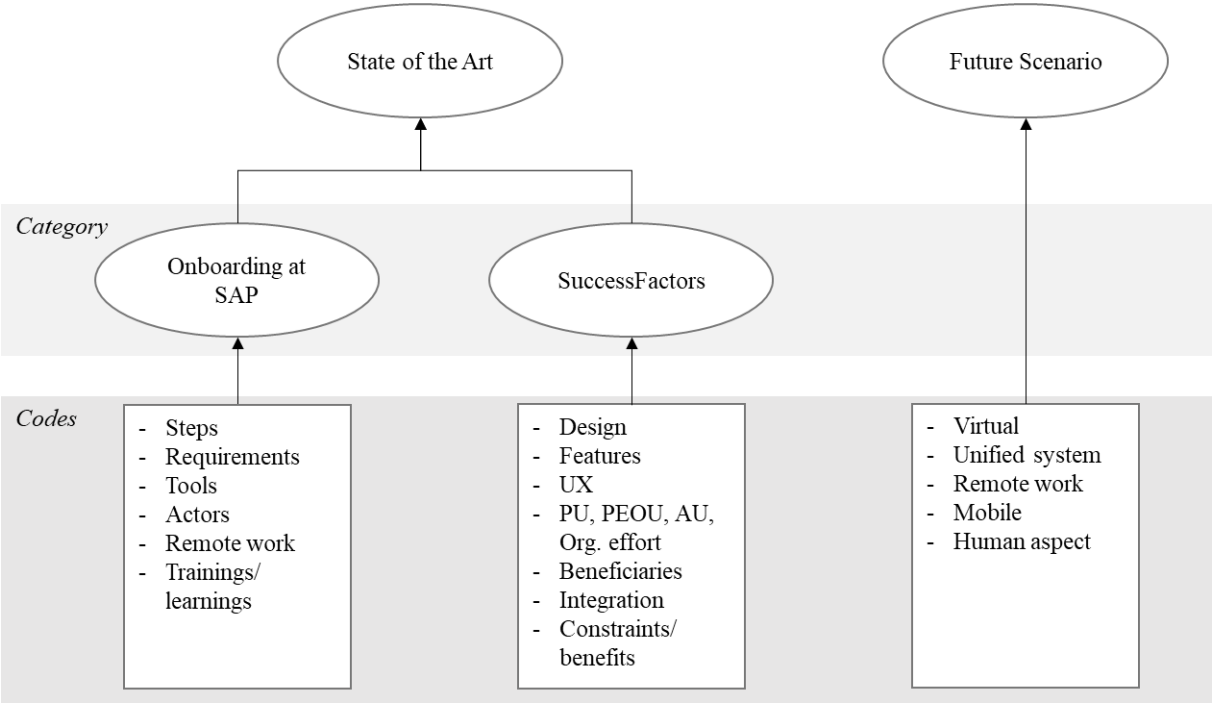
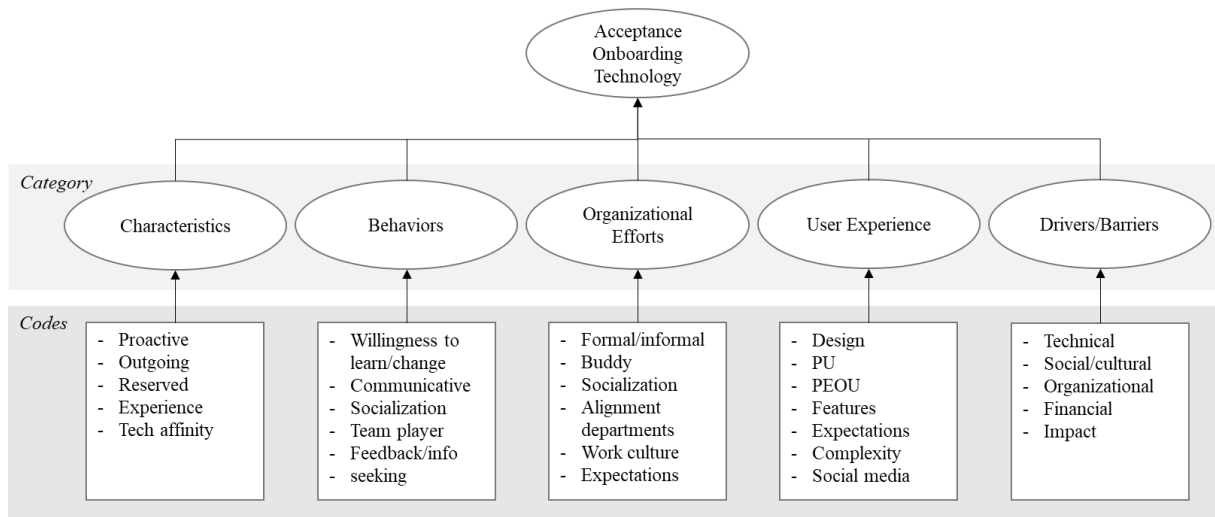


Figure 4: Categories and Codes Research Question 1



*Figure 5: Categories and Codes Research Question 2*

## 4 Findings

Common patterns of factors influencing the acceptance of onboarding technology at SAP, as well as the drivers and barriers of the innovation, emerged from the interviews. An extended Technology Acceptance Model for the case of SAP providing insights into the relations between the different variables and themes was developed. One motive of this study was to identify the factors having a real effect on the acceptance of technology in the organizational socialization process and gain a thorough and realistic understanding of its potential.

This chapter sets out by presenting an overview of the status quo of SAP's onboarding process and the used technology provided by the research sample, followed by the data given to answer the remaining research questions.

### 4.1 State of the Art of SAP's Onboarding Process and Technology

The full sample is employed by SAP Portugal, nonetheless, different statements were given due to their professional background and level of engagement with the solution. A more detailed description of the sample can be found in Table 2: Sample Characteristics. Two interviewees with less than one year at the company are still considered in their onboarding process, the remaining four vary from entry-mid to senior experience levels. All contributed with fruitful and diverse insights into the topic. The joint answers can be found below.

#### 4.1.1 Onboarding Process

Onboarding processes vary from organization to organization. Due to SAP's dimension and versatile nature, a global standardization and generalization of the process seem impossible. Below the steps that human resources follow in Portugal. Next, general organizational socialization aspects covered by SAP's human experience management solution SuccessFactors. Putting the spotlight on its onboarding module.

#### *Onboarding at NSC SAP Portugal*

Cultural diversity shapes SAP's workforce. The teams include professionals from different nationalities, pooling around 350 employees at SAP in Portugal. To follow a strategy, a mix of formal and informal continuous onboarding activities are applied. There are two preconditions for onboardees<sup>2</sup> to accept the technologies in practice; mastering the English language and a "*basic understanding in using technologies*" (I\_1). As SAP SE categorizes as a technology

---

<sup>2</sup> A term used at SAP to describe a new joiner from the moment the recruitment was successfully completed.

company and its core business is software, candidates in the recruiting process, hence, future users distinguish through technological affinity. The company's corporate language is English, continuously applied in numerous of its operative and managerial tasks. It is insisted that the users manage the majority of their data in English throughout the hire-to-retain cycle. Hereby, fluency in the language becomes an essential requirement. Even though the option remains to set the SuccessFactors interface to one of many default languages. At this moment in time, the onboarding of new joiners is executed through SAP SuccessFactors. Further, assistance comes from Microsoft Outlook, PowerPoint, and Skype. I\_1 expects the process within the company will be centrally integrated in one solution in the near future. Resulting in the exclusive usage of SuccessFactors for sundry onboarding activities. The processes' duration is split into prior start, first day/week, and subsequent year. During the entire period, the new joiner will deal with three main characters; human resources, the superior manager, and the assigned onboarding buddy.

#### *Pre-onboarding*

The candidate has accepted the conditions of work after clearance with SAP. The recruiter moves the candidate from the SuccessFactors recruitment to the onboarding module. Local human resources continue the process.<sup>3</sup> The manager assigns a senior colleague, who is seen as adequate to help the new employee adjust in the company, via the feature in SuccessFactors. Followed by the draft of a 'welcome message' for the new hire, to appear in the first log into the system. Simultaneously, the human resource department starts the collection of personal information to legally employ the new hire and set up a personal employee file. Most actions are scheduled, reminded, and send automatically through the solution. At home, the new hire receives a mail with the request to remotely log into SuccessFactors. All accessible from the new employee's personal devices. The welcome message appears, and windows with fields to insert mandatory and voluntary data pop up – to-do tile. This data is composed of legal employment relevant information respective to Portuguese regulations (i.e. work permit, tax number, social security number, etc.) and the personal employee record at SAP (emergency contacts, address, bank details, phone number, title, etc.). To ensure that the new hire has hardware, software, and access to a computer and necessary systems available on day one, the windows user, access to essential systems, the laptop, and accessories need to be requested via the IT support tool by the manager. To reach full productivity, the pre-onboarding aims to

---

<sup>3</sup> SAP Portugal collaborates with other SAP locations in its recruiting activities.



facilitate all activities to ensure that all is set at day one and the onboardee is ready to work and starts being productive (I\_6). I\_4 sees a tremendous benefit in handling administrative tasks, wherever applicable, up front. Limiting difficulties and setbacks for the onboardee in the first weeks, as all information can be validated and corrected beforehand. A smooth pre-onboarding sets the basis for a “*great onboarding experience and time for what really matters – building relationships and fitting in*” (I\_4).

#### *First day/week*

At this point in time, the recruiting process is terminated, most administrative tasks were realized, and the new hire shows up at the office to start the new job role. Now the focus is set onto the social incorporation of the new members and to make them effective workers. The first week contains a welcome session from human resources with an overview about the organization and administrative structures. The goal is to introduce the onboardee, not only to the company’s vision, mission, processes, and structure but daily operative aspects (how to book working hours, schedule travels, leave requests, etc.) (I\_4). Mandatory and essential e-learning are assigned manually by human resources, the management, or automatically by default. To ease the process of socializing with peers and the corporation, the newcomer gets a buddy assigned to guide through the first year, especially the first week. In a more informal, relaxed manner, a more experienced colleague provides helpful insights. In I\_6’s team some past onboardees call their onboarding helper not by their actual name but buddy. To this very day. The goal is to provide an overall picture of the organization and place to go for support (I\_3). For instance, through casual lunch dates, the onboardee is introduced to other teammates and organizational members. I\_6 states that “*the buddy makes the new hire feel at home*”. The main tasks of an onboarding buddy amongst other things involve:

- *Introduction to office (rooms, printer, lunchroom, bathrooms, parking, etc.)*
- *Introduction to helpful contacts (colleagues, peers, IT, etc.)*
- *Introduction to technologies (intranet, shared folders, corporate tools, etc.)*
- *Direct contact person (feedback, questions, etc.)*

#### *Subsequent year*

For a business to have a good work climate, good relationships within the co-workers through teamwork and friendship need to be cultivated (I\_4). SAP therefore keeps the onboarding buddy assigned for the first year. To connect colleagues, the organizational chart can be displayed

through the corporate search function. The road and success map feature display all further activities that will take place to understand the job role and to get to know performance expectations from management. Aiming for continuous improvement, evaluations from the onboarding side are carried out. Feedback through surveys can be given anonymously. Onboarding remains a present topic during the first year, as retention rates are high due to failed organizational socializations (I\_6).

Table 3 summarizes the steps that are taken from the moment the candidate becomes an onboarding, over the first day and week to the first year at the organization. Applied technological solutions, steps in the onboarding process, and the main executors are detailed.

*Table 3: Structure Onboarding Activities at SAP Portugal*

<b>Step</b>	<b>Activity</b>	<b>Tool</b>	<b>Timing</b>	<b>Responsible</b>
<b>1</b>	Data collection	SuccessFactors	Prior start	HR
<b>2</b>	Welcome session	SuccessFactors, Outlook, PowerPoint	First day	HR
<b>3</b>	Onboarding buddy	SuccessFactors, Outlook, Skype	First day/week, subsequent year	Buddy
<b>4</b>	E-learnings	SuccessFactors	First week, subsequent year	Management
<b>5</b>	Performance	SuccessFactors	Subsequent year	Management
<b>6</b>	Evaluation	SuccessFactors	Subsequent year	HR

#### *Onboarding with SAP SuccessFactors*

In the next paragraph, a detailed view over the features and functionalities of SuccessFactors is given. It is noted that the solution's complete functionalities exceed the features mentioned in this research. Nonetheless, a holistic picture in regard of the data derived from the interviews was drawn.

SAP's SuccessFactors comprises a harmonized, cloud-based human experience management suite. One of the suites various modules is onboarding. SuccessFactors stands out through the system's completeness and match of the market's needs (I\_2). Becoming a necessity to run a successful global business. The licensing costs are seen as justifiable high but not as a burden to adopt the solution. Legal regulations ban critical countries such as Iran, North Korea, and Cuba in implementing the solution, in fact doing business with SAP. Besides this, solely the readiness of the adopting organization in adjusting internal process towards the technology can impede a successful implementation (I\_2). The system is customizable but not configurable without transforming the backend. The adjustment of hardcoded elements will lead to a change for all customers that use the same data center. The structure of the organization must be taken into account. Standard (common) versus complex (individual) internal processes, as well as national versus multinational operating organizations play a role in the implementation of SuccessFactors. Having an influence for consultants and the implementing firm regarding the customization's time, budget, complexity, and scope (I\_6). Therefore, it is recommended to orientate the processes' needs according to SAP's leading practices.

*“The relationship of IT and HR is like a Venn diagram. The circles don't overlap. Actually, are on the complete other side of the universe.” (I\_6)*

Therefore, to mitigate the gap in strategic focus and gain maximum success. IT as well as human resources are advised to assess and agree in unison. Which may be challenging as both departments' primary interests are quite unyielding. Regarding the user experience and first impression, I\_6 details the necessity to keep the mandatory data request to a minimum.

*“Do not make too much mandatory. The new hire will spend at least two days filling out all that information, which is a complete nightmare”. (I\_6)*

None of the interviewees associated SuccessFactors with not delivering results if adopted. Moreover, all see the implementation as beneficial. After a successful implementation project companies are able to optimize tasks which leads to a reduction of manual human work. The solution shows various benefits in its adoption. In a nutshell, it is a central point to upload, manage, control and analyze the onboarding activities of a new organizational member with 24/7 accessibility at the distance of a click (I\_4).

*“SuccessFactors is a self-service tool which collects all information for hiring without actually filling out a lot of forms, skipping long mails, no coping of various documents, sends data seamlessly to other tools, and keeps all information in one place.” (I\_4)*

Starting in pre-onboarding, human resources collect and analyze all relevant data to legally hire the candidate. On the other side, the new employee amongst other things, receives information about the location of the new office. Furthermore, is able to watch a virtual showing of the facilities and explore new teammates’ corporate profiles, all accessible from home. During the first day and week, the requested equipment is ready to be used and the onboardee can utterly focus on the social part of onboarding. Via the adaptable checklist, goals are set in a short (30, 60, and 90 days) and long-term (>90 days) interval. Recommended links are displayed in the dedicated tile. The search function allows to find peers. I\_1 compares SuccessFactors to social networks – *connecting, relationship building, and maintaining*. Easing the process to connect with organizational insiders. In the subsequent year e-learning, performance evaluations, and surveys accompany the onboardee. Whilst automatic and manually triggered notifications serve as reminders. During the process the functionality to grant access to third parties to delegate tasks, emerges to be helpful. A secure VPN connection needs to be established to access all services. SuccessFactors persuades as a help to human resources as well as the management and the new hire.

SuccessFactors design is described as user-friendly, handy, and playful. Prior experience with the system does not matter, as the users tend to perceive it as intuitive. Nonetheless, I\_5 expresses minor points for improvement in the user-experience. All types of users are able to use the solution, whereas technological affinity is a plus (I\_1). Table 4 gives an overview about the consolidated benefits that the interviewees see in the use of SuccessFactors for onboarding. The benefits were assigned to features covering the subject and further grouped into themes.

Table 4: Overview Benefits of Features in SuccessFactors

<b>Theme</b>	<b>Features</b>	<b>Benefits</b>
Access	App & browser view, authorization	Access, management, and editing of information from anywhere and anyone (with approval).
Compliance	Custom forms, digital signature	Error-free data collection according to local regulations, fast approvals and storage.
Support	IT & HR incident reporting, to-do list	Easy and effective communication related to IT and HR topics, checklist to organize and keep track.
Socialization	Orga. chart, corporate profile, buddy	Visualization of organizational members, formal and informal networking activities.
Education	E-learnings, home page, virtual office, recommended links	Personalized and task specific development, information about the organization, video preview of office, helpful information recommended by others.
Performance	Performance & goals	Creation and monitoring of short- and long-term personal/business objectives within workflow.
Development	Roadmap, calendar dashboard notifications	Tracking and automatic notification of progress, pre-view and scheduling of meetings.
HR	Several to cope with onboarding duties	Digital creation of i.e. employee record, compliance, feedback and analysis function.
Manager	Several to cope with onboarding duties	Digital completion of i.e. buddy assignment, welcome message, equipment provisioning, recommended links, report generation, and goals.
Onboarder	Several to cope with onboarding duties	Gathering place for onboarding relevant assignments to ensure effective performance, i.e. document upload and e-learnings.

Regarding the evolution and development of the new resource, onboarding processes just set the entry point. An open door to start talent management (I\_3). The onboarding process is often not seen as relevant enough, consequently neglected and pushed to the background by many organizations (I\_5). It is therefore essential for an organization to offer a neat onboarding experience. SuccessFactors is a great vehicle for that purpose since it is the first tool a new hire has contact with, when entering, even applying for the company. This first impression counts, and technology is there to help (I\_3).

#### *4.1.2 Technology Acceptance Model and SAP's Onboarding Technology*

Commonly quantitatively applied, the Technology Acceptance Model (Davis, 1989), was qualitatively investigated. The models' factors were set in contrast to their applicability to SAP's onboarding technology. Data collected throughout the interviews confirm the primary (actual use, perceived usefulness, and perceived ease of use) and influencing factors of the given model. The next paragraphs feature qualitative data solidifying the model. Followed by an in-depth description and support for new emerging themes.

##### *Actual Use*

Based on the Technology Acceptance Model by Davis (1989), the actual use of technology is of matter to an individual's interest (behavioral intention) towards utilizing it. As all interviewees are in a paid employment relationship with SAP Portugal, the onboarding itself is a mandatory process and voluntariness in using the provided onboarding technology is limited, one may argue eliminated. Nevertheless, the two constructs of behavioral intention and use behavior of onboarding technology will be examined not only from a focused user (new hire) but adopter's perspective (employer). It is important to note that onboarding from a business process perspective overlaps with different SuccessFactors modules. Whereat the spotlight is set on the onboarding, as well as learning and performance modules. The main findings of the interviews are the following.

In the first instance, all interviewees affirmed the importance and usefulness of technology for onboarding. Furthermore, numerous advantages in using the SuccessFactors solution for onboarding purposes were listed. Reasoning the intention to use the technology, moreover, seeking to apply it. In fact, nearly all of the interviewees' onboarding was executed with SuccessFactors. One falls out of the statistic, as the employment started prior SAP's acquisition of SuccessFactors. The new hires' on-site onboarding additionally involved the minor use of Microsoft Outlook, PowerPoint, and Skype in some cases. Due to data collection purposes from

a human resources' perspective, the new hire is asked to insert personal information into the tool from home during recruitment. This is the point where the user accesses the platform for the second time after the actual application (recruiting). Through the increasing size of businesses and globalization, the use of technology is seen essential to automate processes and in decreasing the workload of the human resource department (I\_2). I\_3 and I\_5 see an even better acceptance of the solution in its mobile version. Dealing with human resource topics on a mobile phone, rather than logging onto a website might eliminate unfamiliarity and facilitate the actual usage. I\_6 sees a well-adopted technology as contaminating, if successfully implemented it can become a trend and others will start using it as well. Currently, SuccessFactors major advantage comes from e-learning, personal data maintenance, and incident-reporting functions. Nonetheless, I\_2 sees the potential to focus on all functions. The intention to use the technology is not seen in any relation to age, gender, or experience. Finally, all interviewees concluded by promoting the full usage of SuccessFactors' onboarding module at SAP Portugal.

As mentioned above, the behavioral intention in accepting and using SuccessFactors for onboarding at SAP Portugal is present in all interviewees. Nonetheless, there is a difference in their notion and the obligation which leads to the actual usage at the company.

### *Perceived Usefulness*

Perceived usefulness expresses how a person views a technology in terms of assisting with and improving task completion (Davis, 1989). Primarily influenced by subjective norm, image, job relevance, output quality, and result demonstrability (Davis & Venkatesh, 1996). Through repeatedly mentioning the use of SuccessFactors to complete tasks more efficiently, the significance of onboarding technology's usefulness was authenticated by all interviewees. Especially the department of human resources and the managers are pointed out to enjoy the largest benefit in using the technology in their onboarding operations. Despite, all involved users obtain an effective and simplified enhancement through the technology.

From a manager's point of view, the system showcases an easy way to access and control the new employee's data and state in the onboarding process. Diving deeper into the features of the solution, certain functions can become executable through other parties. Access authorization, according to I\_1, has a tremendous impact on the speed of internal approvals and is seen as highly useful to delegate tasks. The progress of the new hire's onboarding activities can be controlled via the road map. The digitalized proof of achievement serves as a surveillance mechanism. Regarding the improvements in the performance of the new hire, the tool allows to

address continuous improvement recommendations. Assigning an onboarding buddy has an impact on the social aspects of organizational socialization of the new joiner. I\_5 mentions that SuccessFactors can foster the relationship between management and employees.

On the other hand, the newcomer can speed up the onboarding process to reach full productivity using the technology. I\_2 argues that the exact usefulness of the technology is dependent on the user's goal. Timing, desired value, and conditions need to be appropriate. Due to the current Covid-19 pandemic, remote work conditions are taken place at SAP Portugal. The technology allows the new hires to directly access the system on a mobile device or own computer. It is flexible in its adaptability to changing work conditions. Useful information can already be inserted and acquired from home. Necessary tools (i.e. mouse, monitor, phone, etc.) can be requested via the platform. I\_2 outlines the practicality of SuccessFactors in gathering all relevant e-learnings in one place, especially in larger-sized organizations.

*“Technology is the key part of the onboarding process to present necessary learnings and showcase the state of learning. A big help in a major company such as SAP.” (I\_2)*

Numerous other features of SuccessFactors were listed (i.e. display organizational chart, mobile version, mandatory e-learnings, performance tracking, incident reporting, etc.). All in relation to enabling higher job performance and making the actual job easier. I\_3 stresses SuccessFactors to help reach the new hire's objective to understand the job role and get to know expectations from management. According to I\_6, the average user is used to deal with technologies via tablets, mobile phones, and computers. Hence, it is crucial that the technology is available on all devices to guarantee the acquisition of useful information.

Lastly, human resources gain direct accessibility and display of employee data. Instead of jumping from page to page, I\_5 illuminates the consolidating function of SuccessFactors, which places information and decisions in one single place *“at the distance of a click”* (I\_4). High effort and low value manual work shape human resources daily operations. Recurring, operative tasks become automated and the workload decreases drastically, eliminating the high degree of effort. Through its connectivity, SuccessFactors is able to review and transfer information from other systems. Piles of paperwork become well-structured on digital databases. Adding its environmental plus factor to the list of advantages. SuccessFactors characterizes itself through self-contained changes by users, ensuring the data to be up to date and easily maintained autonomously by the employee. Cutting slack on the organization's side. I\_6 gives the example of typographic errors through the conversion of handwriting into the human resource databases.



Especially in foreign languages, mistakes in the translation of mutated vowels (i.e. ä, ã, etc.) occur frequently. A standardized onboarding system reduces the error rate to a minimum, on the organizations, as well as the new hire's side. Common e-learnings such as compliance, discrimination policies, and security topics are consolidated in the learning feature. Through its 24/7 availability, constantly accessible for the new joiner and easy to be controlled by human resources.

To sum up, I\_2 highlights that SuccessFactors stands out as “*a system that really matches the market's needs and characterizes as complete*”. I\_3 sees it as a democratic tool in which all users profit through its connecting and centralizing qualities. A platform that connects the full human resource spectrum, not only for the part of organizational socialization but the whole hire-to-retire process.

### *Perceived Ease of Use*

Perceived ease of use appears if an individual believes that using a certain technology will be free from effort (Davis, 1989). The interviewees concordantly argued that the technology has to be easy to use to positively affect its acceptance. The overall perceived ease of use of the technology remains high.

*“If I had to rate SuccessFactors on a scale of 1 to 5, I would give it a 4. It is not perfect, but it is very intuitive.” (I\_2)*

Having said that, all respondents describe SuccessFactors as intuitive, followed by the ease of use, user-friendliness and a stimulating design. Table 5 ranks the qualities in user experience named in this study.

*Table 5: Top Four Qualities of PEOU in SuccessFactors*

<b>Rank</b>	<b>User Experience</b>	<b>Frequency</b>
<b>1</b>	Intuitive	6
<b>2</b>	Easy to use	5
<b>3</b>	User-friendly	5
<b>4</b>	Stimulating design	4

According to I\_2 the start at a new organization goes along with “*a lot of headaches, struggle, and frustration*”. Having a flexible, easy to learn technology which requires a minimum of mental effort has the benefit of mitigating the disadvantages of unfamiliarity with the technology and facilitates its acceptance. As the majority of the study’s participants are professional consultants of the SuccessFactors solution, an easier interaction through experience was explored. Besides, it is agreed that SuccessFactors is an easy to use solution for all kind of users, prior hands-on familiarity with computers remains essential. By implying that any person is naturally able to use SuccessFactors (I\_6), the solution still has to offer an advanced standard in design to enhance acceptance.

*“The system needs to be designed in a simple way. The simpler to use, the more usage in general. Plus, on a service level, the easier it is to sell the product.”* (I\_6)

Being free of effort can be accompanied with the design of the technology. Keeping it as simple as possible may go a long way. Nonetheless, a visually appealing interface may assist in its user acceptance. Tiles in form of Fiori apps on the homepage of the solution consolidate all relevant information with direct and easy access for the user, displaying data right in front of the user. The human being can be addressed as a creature of habit. The solution’s design therefore should follow a pattern – “*same code, same data, and same structure*” (I\_6). The various functionalities may overwhelm unexperienced users (I\_2). Familiarity, thus understandable usage throughout the complete SuccessFactors’ suite intensifies over time. Adding the option to making it compatible to fully integrate it into the master system. The interviewee further sees the advantage of one platform for several business processes. In case of various, having to jump to external pages may irritate and tiresome the user. In the unusual case the user is unfamiliar with the technology and shows resistance to change, anxieties may result in neglected use (I\_4). On the other hand, prior experience with the technology can allow close to mechanical flows of actions within the onboarding platform (I\_4).

Another bonus of the software is its convenient design. I\_6 sets comfort to the next level, SuccessFactors can be technically accessed “*sitting down at home in pajamas*”. Featuring full functionality from all devices. I\_5 addressed the solution’s playful character for the user experience. I\_1 compares SuccessFactors with the concept of social networks. Features showcase the new hire’s peers and helpful contacts within the organization.

*“Employees like SuccessFactors, it is like a profile. They are able to view their peers and update their contacts.” (I\_1)*

A search engine or organizational chart ease the process of connecting and building relationships with organizational members. Even though I\_4 states that the solution is that clear to use, that no instructions from colleagues in operating it are needed, the option to reach out for help remains available through the employee network feature or incident reporting.

I\_6 specifies the steps the newcomer has to master in the system. Starting with an automated mail, the first log into the system, required clicks, filling personal data, and the round up with a digital signature leave the process with a minimum of mental effort for all levels of education and experiences. As previously stated, all types of users essentially can use SuccessFactors. However, practical experiences of I\_4 and I\_6 show that the level of technological literacy of the new hire is of importance for the successful customization, hence, acceptance of the system. Exemplary, the implementation may face issues due to the type of blue-collar workers that are acquired for manual tasks on farms and factories. This type of workers experience extensive dyslexia and technological illiteracy. Still they are exposed to means of communication on their mobile phones such as WhatsApp or Facebook. In this case, the system requires to be simplified to a maximum to guarantee that the new user manages to successfully and accurately insert data, as well as understands addressed assignments and responsibilities.

#### **4.2 Factors Influencing the Acceptance of Onboarding Technology**

Qualitative research allows themes to naturally emerge in the data and pay attention to input that may be neglected in closed quantitative studies. The upper findings back the quantitative nature of the method, expressing the robustness of the TAM (Davis, 1989). However, the findings were set into context with the categories of the Process Model of Socialization – new employee characteristics and behavior as well as organizational efforts (Bauer & Erdogan, 2011). The explorative character of the study discovered a new emerging factor, user-experience. Resulting in the response to the second research question, which identifies the factors that influence the acceptance of onboarding technology. A generalized picture for scenarios of onboarding technology use through SuccessFactors and other solutions can be drawn.

### *New employee characteristics*

Every user is different and stands out with an own character, nonetheless there are certain personality traits that may foster the general acceptance of a technology. Even though any person is naturally able to use SuccessFactors (I\_6), basic technological literacy as well as extraversion, affinity, enthusiasm, familiarity, the willingness to learn, being outgoing, and openness were identified to be beneficial in handling the system. Especially proactive personality traits (outgoing, open, enthusiastic, affinitive, and able to take criticism) tend to succeed more in the utilization of SuccessFactors. As well as personalities who embrace change, new ways of working, and accessing information. On the other hand, if the individual has a more reserved character or is not comfortable in learning to use a new system, the process of adoption will not be as easy as in the contrary scenario. Further, the level of technological literacy and education are influencing factors (I\_4). To smoothen the process, a first glimpse and early introduction to the technology to boost user readiness are proposed (I\_5). Today, a technological mindfulness is encouraged from an early age.

*“The younger, so called modern, users are more likely to accept technologies.” (I\_4)*

Further endorsed through the higher willingness of millennials to apply new technologies for processes (I\_3). Not implying that older generations lack flexibility in adapting to these. Attention has to be paid to the perception of sensitive judgments. The communication of a picture that certain user types are not capable of doing certain steps themselves, such as follow instructions, may be upsetting to the user (I\_6). There are diverse technological applications in private- and work-related settings. To be proficient in all common systems is hardly possible. The design of the system creates best results if it is simplified to be accessible to all stages of experience of users (I\_6). Regardless, in the case of SuccessFactors prior experience is an advantage in its usage. An organization is composed of diverse individuals which work together towards the same objectives. There is low acceptance for *'lone warriors'*, team players are better integrated, as well in onboarding aspects (I\_1). I\_4 shared an example of multinational companies which tend to be disconnected in their onboarding processes through diverse types of hires. For instance, the onboarding of an employee in India differs from the process in France. This is not the company's fault; this is common cultural diversity. To be responsive to the local circumstances and to embrace the international differences, the onboarding process needs to be handled according to acceptable and appropriate forms of the represented country. In case

needed, managers function as assistance on personal topics. Honesty and personal well-being should consistently be ensured on both sides: employee and management.

To sum up, I\_2 recommends *“to be yourself and do not pretend to be somebody you are not”*. With a basic technological understanding and openness to embrace change, all types of users can profit from SuccessFactors’ onboarding.

### *New employee behaviors*

In the same work context, with the same tools for a long time. Individuals can be caught up in routines. Acquiring new information can become uncomfortable and cumbersome. Resisting to change is a behavior that is not of assistance in the acceptance of onboarding technology. As a certain degree of knowledge in handling technology is required to adapt successfully to SuccessFactors. Struggling users must look out for information that can help them increase their proficiency with the system (I\_6). Information is easily accessible via the mobile version of the solution at any time, from anywhere. There should be no hesitation to ask questions or reach out to peers. SAP’s philosophy is to *“build bridges, not silos”*, a culture of knowledge sharing is established and promoted within company’s walls (I\_2). To reach out and talk to other employees can conclude in shadowing a mentor. In a personalized manner, information and experiences are exchanged. The SuccessFactors homepage features recommended links from the manager, useful corporate information, as well as employer-employee relationship relevant data. If the newcomer wants to satisfy one’s curiosity, the corporate search function can disclose colleagues’ profiles where one may have uploaded a picture and detailed self-description.

In case expectations in how the new company operates do not meet own principles, interactions with organizational insiders may help overcome the challenge (I\_3). An approach of communication goes a long way. Constant feedback additionally has the benefit to give input to improve the user experience of the solution. Throughout, the system may increase its usage and the provider can build reputation (I\_6).

Due to the Covid-19 pandemic momentarily new hires may *“feel strange as there are no in-person, face-to-face interactions with colleagues”* (I\_1). Regarding technology, nothing replaces human contact. Especially on day one, the help of the onboarding buddy is essential (I\_4). Further, it is recommended to look out for new colleagues to promote the creation of internal networks.

*“There are times where you will spend more time with the people you work with than your own family.”* (I\_4)

In case this *'work family'* is reality, spending time with and getting to know colleagues becomes unavoidable. As cultural diversity is in SAP's DNA, the embracement of an accepting work culture is essential. Respect is crucial to become a valuable, fully integrated member of the organization (I\_4). Next, I\_3 advises *"to not be afraid to make friends, whilst being loyal to your true self"*. All this in a best-case scenario with a smile on the face. Happiness is seen as an important factor to accept technology. It can be the best technology in the world, nothing works if the employee is not happy (I\_4).

It is fundamental, not only for the new hire to be enthusiastic to learn and be open to ask questions to become a complete organizational member but the organization to do the same. All three topics, feedback, information, and fostering relationships, can likewise be executed from the employer's side.

#### *Organizational efforts*

SAP offers a learning experience tailored to the newcomers as well as broadly applied standards. The applied socialization tactic consists of formal and informal training to learn the role. The SuccessFactors platform primarily accounts for the formal part, in which employees increase their knowledge about the company and job through corporate material, assigned e-learning, and recommended links. Hereby, it is ensured that the new hire is introduced to the company's culture, job role, and colleagues. I\_1 underlines the significance that these trainings are provided as well as maintained through updates. Informally, the organization assigns the onboarding buddy via the platform. There is a clear sequence of steps that are accomplished simultaneously. The progress can be displayed in the road map feature. There are pre-defined and variable sequences in the training according to the user's needs. Onboarding at SAP has an elaborated, continuous plan throughout the first year (I\_1). Through mentoring from experienced role models the new joiner gets help with the adjustment in the company and gains a clear view over the organization. It is a two man's job, not only the new hire has to get to know the organization, but the organization has to get to know the employee. With an approach of communication, a deep connection and rewarding relationship can be established (I\_3). The first time the user accesses SuccessFactors is during recruiting. First impressions count. Starting with the recruitment a smooth and error-free cycle will leave an impeccable impression for the newcomer, which later may lead to organizational commitment (I\_3). Technological issues regarding the establishment of a secure and steady internet connection should be kept to a minimum to avoid frustrations (I\_1).

A high percentage of newcomers leave the company within the first year. To counter steer the cost and time to replace a misfit, a clear and simple approach based on what companies and employees honestly expect is of advantage (I\_6). Already in the recruiting process, a discussion of all subjects and matters regarding the performance and career development expectations on both sides should take place to avoid surprises and align expectations. The wholistic SuccessFactors platform offers a feature in which organizational members can refer friends and family for job openings. Referrals have the lowest cost of hiring and high reliability in filling in a vacancy, as the experienced employee can pass on an accurate picture about the firm (I\_6). I\_3 highlights the power of social media as a medium to share the company's image with the world. External opinions are being formed through social platforms such as LinkedIn, Glassdoor, Twitter, or public websites. To attract interesting applicants, a profound online appearance can be used to attract.

Through sharing experiences and offering social support, senior organizational insiders help the newcomer to become more knowledgeable about their new work environment. All interviewees support the assignment of an informal onboarding buddy as a guiding mentor. A central contact point for support in technical as well as social matters (I\_2). Helping to increase the speed to complete organizational socialization.

#### *Emerging factor – User experience*

As a result of the interviews, an additional factor regarding the acceptance of onboarding technology emerged from the data: user experience. Its perception relies on two factors - what the users want and what they need. SuccessFactors as a technology for onboarding seems to meet both demands. An exciting, easy to use tool, which efficiently supports organizational socialization from an organizational as well as newcomer centric perspective.

**System design.** The interface of the SuccessFactors' solution was described as user-friendly by all involved interviewees. In a desirable way the system facilitates the newcomer's learning experience in a fast and playful fashion. The design is experienced as aesthetic and visually appealing. An improved end-user experience is guaranteed by following a pattern using the same objects, elements, rules, and validations throughout the solution's interface. The look-and-feel differentiates through simplicity (I\_5). All interviewees acknowledge that the system's quality is of importance in the acceptance of onboarding technology, specifically in their intention to use SuccessFactors. The design and appearance of SuccessFactors is not only attractive and easy to navigate but regular updates ensure a highly level of security. Constant

renewals of information secure actuality of content and avoid obsolescence. Through the connection via VPN for full range of services, the solution's utilization appears to be secure and safe (I\_1). From the user's perspective and out of interest from the applying company, it is noted that more and more focus in the development of the technology is set on "*making it look nice*", in order that the user works or plays with it for a longer period (I\_6).

***System features.*** SuccessFactors represents a wide range of features and functionalities. The interviewees agree consentaneously on the usability and need of SuccessFactors to achieve the goals of onboarding in an effective and efficient manner. The features cover all essential duties applicable to the context of organizational socialization (I\_1). A technology that provides value through easy interactions and accelerating the achievement of onboarding goals; role clarity, self-efficacy, acceptance by organizational insiders, and knowledge about organizational culture. Accessible from anywhere and to anyone, allowing an autonomous, traceable, and self-determined course of action (I\_2). The combination of the onboarding module allows the integration into the holistic SuccessFactors human experience solution for the aggregation of the entire spectrum of human resource activities of an organizational member (I\_4).

***Mobile version.*** With the geographical dispersion and mobility of the workforce as well as the significance of pre-onboarding activities, the availability of the solution on portable and non-corporate devices becomes crucial (I\_4). SuccessFactors onboarding is a cloud-based solution, which can be retrieved from conventional browsers along with its app. The access via an app and prior to start from home is seen as handy and comfortable, guaranteeing 24/7 usage. Mobile accessibility is crucial in the current home office-oriented work environment (I\_4).

### **4.3 Conceptual Onboarding Technology Acceptance Model**

Through the combination of proven academic modules and the findings of this qualitative study a conceptual framework was generated (Figure 6). The Onboarding Technology Acceptance Model, short OTAM, adapts the Technology Acceptance Model of Davis (1989), with Bauer and Erdogan's (2011) organizational socialization research, as well as the from the conducted research exposed factor of user experience. The model aims to represent, how an employee's attitude towards using the technology is affected by the new hire's characteristics and behavior, as well as organizational efforts, and user experience. A visualized and detailed version of these factors can be found in Figure 6: Conceptual OTAM.



In most cases, the process of onboarding a new employee represents a paid employment relationship with the hiring organization. The onboarding itself is a mandatory process and voluntariness in using the provided onboarding technology is limited, up to eliminated. Hence, the aspect of voluntary behavioral intention to use the system is dependent on the demands of the employer. The case company under study obligates the application of SuccessFactors for onboarding relevant data processing. The intention to use the system is for the most part chained to a mandatory utilization.

The external variables result from theory and practice matching of the above academic literature and the data derived from the interviews. The employee will likely choose to accept and use SuccessFactors if an effortless user experience in design, feature, and mobile aspects is guaranteed. The addition of user experience is justified through several advantages. To start with, the perceived ease of use is highly affected by the system's design. Besides, analytics can assist in the determination and improvement of the user experience. Hence, have an overall effect on the perceived usefulness of the system as well positive consequences in mitigating deficits in the new employee's characteristics, behaviors, or organizational efforts. Further, the user's characteristics such as a proactive and open personality and prior experience with the solution or technological affinity can benefit or drawback the acceptance of the system. Additionally, the successful incorporation of the new hire with technology is supported by information, feedback seeking, and relationship building impulses. Lastly, the organization as an adopter of the technology must make an effort and show initiatives in the applied socialization tactics, the recruitment, add realistic job previews, and include organizational insiders.

In the framework, behaviors of the new employee are predicted by one's personality traits. Characters that are more outgoing tend to be more proactive in their information acquisition and interpersonal communications (I\_1). On the other hand, the organization can make an additional effort regarding the enhancement of the user experience. Within this connecting factor, user research and solution development are significant.

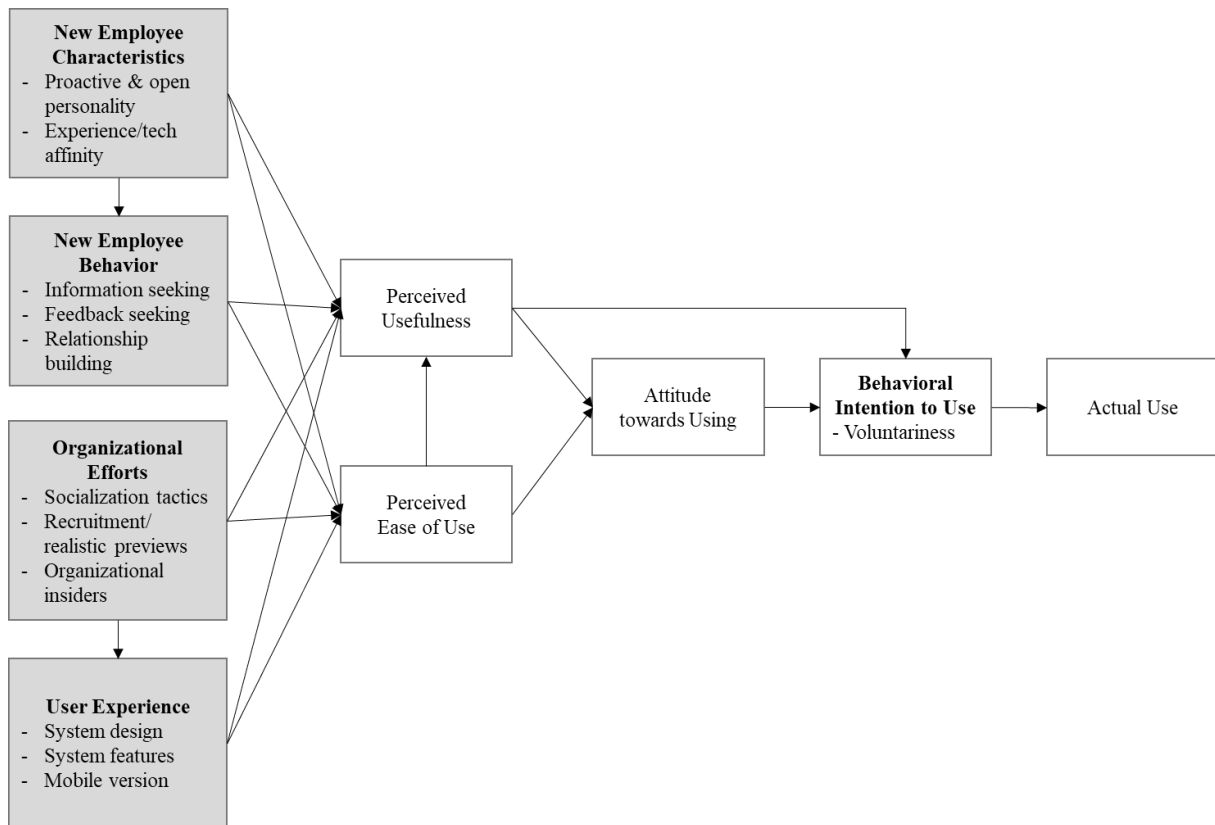


Figure 6: Conceptual OTAM

A compiled version of the OTAM (Figure 7) allows an additional interpretation of the factors: characteristics and behavior. Onboarding technology is not solely carried out from the perspective of the newcomer, it is a multi-actor involved process. Management as well as human resources rely on the technology. Thus, a side-inverted application of the model to all potential users is possible, even advisable. Furthermore, the remaining factors may also differ from application case to application case.

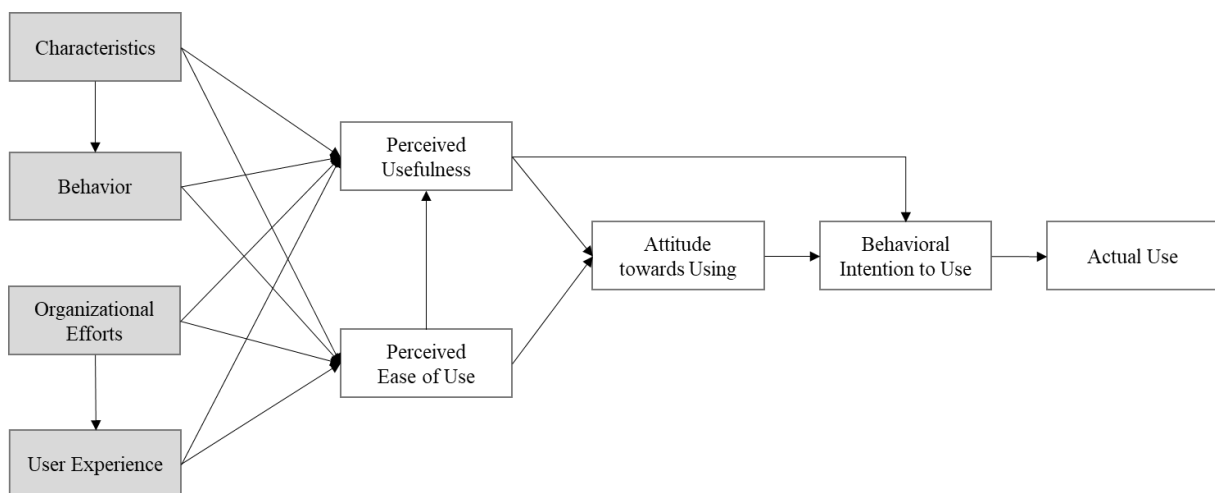


Figure 7: Consolidated Conceptual OTAM

#### 4.4 Drivers and Barriers

The following Table 6 and Table 7 identify the influential factors facilitating or hindering the successful adoption of various onboarding technologies. The data responds to research question number two - what factors influence (drivers and barriers) the acceptance of onboarding technology? All user types, from human resources, over management, to the newcomer were considered. However, the focus lies on the new hire's perspective. It is noted that the barriers are not prominent in SuccessFactors, they need to be taken into account on a mainstream level.

*Table 6: Barriers in Accepting Onboarding Technology*

<b>No.</b>	<b>Barriers</b>
1	Lack of social interaction and missing human component
2	No option to integrate with commonly used tools (MS Teams, Skype, Word, etc.)
3	Complexity of onboarding process
4	Perceived relevance, misconception of onboarding process, and readiness to adjust from organization
5	Country specific legal and cultural requirements
6	Availability and reliability of internet connection
7	Shortage of financial resources on organization's side (licensing costs)
8	No PU – lack of information, no acceptance by other organizational members, and no perceived added value
9	No PEOU – user-unfriendly, too complex, hard to access, navigate, and handle
10	Personality traits - reservation, introversion, education level, and lack of knowledge and ability to use technology efficiently
11	Behaviors - resistance to change, preference of face-to-face interactions, no enthusiasm, not information or feedback seeking, caught in routines
12	Organizational efforts – too formal process, discordant IT & HR, no support from organizational insiders
13	Poor user experience – confusing design, overwhelmed by features, not mobile friendly

Several types of barriers are twofold, potentially proving themselves as beneficial. For instance, a poor user experience contributes to low enthusiasm about the applied solution, on the other hand, a stimulating appearance can increase the user’s willingness to accept the technology. Drivers for onboarding technology’s acceptance named by the sample are detailed in Table 7.

*Table 7: Drivers in Accepting Onboarding Technology*

<b>No.</b>	<b>Drivers</b>
1	Times of crisis - remote work model and need for digitalization
2	Geographical dispersion of workforce
3	Increased size and globalization of business
4	Automation of processes – reduction of manual tasks
5	PU – supports clarification of job role, social interactions, consolidation & display of information, performance monitoring, continuous improvement
6	PEOU – intuitive, easy to use, user-friendly, equal accessibility to all users
7	Personal traits - outgoing, extroversion, tech enthusiasm, and self-determination,
8	Behaviors - open to change, willingness to learn, embracing change
9	Organizational efforts – early trainings about the solution, automatic reminders, support feature, corporate social networks, guidance through buddy
10	Great user experience - standardization, low mental effort, intuitive, gamification, social media-like interface, mobile version

#### **4.5 Future Scenario**

What is happening today, may not be true tomorrow. The fast-paced development of technology is shaped by constant change (I\_4). The interviewees were asked to share their ideas on how they think onboarding technology will evolve in the next years. Versatile answers to expected trends and developments were given, grouping them into new leading practices and added functionalities. To sum up, all agreed on the virtual character of onboarding at a progressive rate. Next to the concern that the social component of the process becomes lost.

### *New standards*

There is a lesson learned by the Covid-19 pandemic. The new normal, embraced the acceptance of remote work, expatriation, and home office. These arrangements will prove themselves sooner or later as established working models (I\_4). Without the physical presence, the specific use of technology to onboard a new organizational member becomes unavoidable (I\_3).

*“We can do everything with technology. We can start a job at a new company from home, only using technology”.* (I\_1)

However, I\_2 does not see the enforcement of a fully virtual onboarding; *“sitting in a chair with VR goggles on with no social interactions”*. Nonetheless, there is no replacement of the human aspect in onboarding. Onboarding technology is there to assist but not completely replace the social face-to-face component (I\_4). As a point of improvement, the development of the social aspect of the technology needs to be taken in closer consideration (I\_6). For instance, the implementation of SuccessFactors at organizations can require from three, over six months, up to 5 years in complex cases. A standardization in the cloud may speed up the process (I\_6).

### *New features*

In SuccessFactors case, I\_5 expects the same base technology but improvements in form of additional functionalities. As currently seen in the move from SuccessFactors onboarding version 1.0 to 2.0. The same process but better functionality and integration in the suite. Hereby, the timing to release a flawless product becomes crucial in avoiding gaps and limitations. As a business, SAP strives to sell the holistic human experience management solution, not single modules (I\_6). The investment in the full package can boost the employee experience from a hire-to-retire perspective. Gamification is an approach to keep the user engaged for a long time. In the future, a general integration of communication tools such as Microsoft Teams or general call, meeting, survey, and analytic systems may be summarized in one place (I\_4). Due to the newly embraced remote character of work, a mobile version of the technology is inevitable (I\_4). Applied analytics will help to track and improve the onboarding experience of each individual and allow to draw deep insights into the process. Points for improvement become visible. Before the first day, many doubts occur for the newcomer. A chatbot can help to facilitate the start. The option to ask questions to colleagues prior the first day becomes available. Anonymously, and in accordance to data protective regulations, general questions as,

what to wear, is there a microwave in the canteen, can I address people by their first name, can be directed to experienced organizational members.

## 5 Discussion

This study aims to advance knowledge about the factors of influence in the acceptance of onboarding technology. By means of thematic analysis, the themes of organizational socialization and user experience were found to have a direct influence on the acceptance of technology used for the organizational socialization of a new hire. The results offer insights into the potential of onboarding technology and highlight the critical role that the new employee's characteristics, behaviors, organizational efforts, as well as user experience play. The study explores the barriers diminishing the potential of the solution by showcasing that particularly the physical-digital gap, the user experience of the technology as well as factors regarding the newcomer's characteristics, behaviors, and organizational efforts impede the innovation's acceptance.

The findings contribute to the understanding of influencing factor in onboarding technology's acceptance and related literature in several ways. First, the study sheds light on onboarding technology's contribution by providing empirical evidence of the direct influence of organizational socialization themes on the acceptance of the technology. Furthermore, findings extend prior research by, not only defining onboarding technology through its features and functionalities but rather based on the specific role it takes in incorporating a newcomer. By detailing the technology's state at SAP, this study provides deep insights into onboarding technology's potential and advances research on digital innovation for onboarding new human resources. Despite the important finding, that the relationship between technology and the human aspect in onboarding constitutes a crucial barrier, this study demonstrates that user's characteristics and behaviors represent the most important barriers in acceptance. It contributes to prior literature by classifying essential organizational efforts, fundamental characteristics, and user behavior. Furthermore, the study stresses the importance of effective onboarding strategies by identifying a misconception of onboarding as a non-iterative process. Lastly, the findings point out the importance to study onboarding technology's acceptance from a multidimensional perspective, as in research for technology in human resource management, to fully capture the theoretical and practical implications of the interrelated concepts of technology acceptance and organizational socialization. The subsequent paragraphs elaborate on each of these contributions.

## 5.1 Understanding the Role of Technology for Onboarding

Current research on organizational socialization (Bauer & Erdogan, 2011) and technology acceptance (Davis, 1989) formed the basis for the application of technology to the onboarding process of a new hire. The gathered results stress factors of acceptance through empirical evidence, demonstrating the potential of technology use in onboarding, as well as the influence through users' characteristics, behaviors, organizational efforts, and user experience. Despite the promising insights, the results show that onboarding technology must be maintained and, even though flexible in customization, previous processes most likely have to be adjusted to be realizable in the solution. Existing academic research is in very early stages, the subject of technology use for organizational socialization is not extensively covered. The findings of this research help to critically reflect the proposed factors of acceptance of the innovation, whilst illustrating a promising portrayal of onboarding technology's potentials. For instance, Bauer (2010) recognized the potential of technology to assist in organizational socialization, not only in the initial pre-onboarding, but throughout the full process (one year). There is a deficit in large-scale adoption of technologies for onboarding activities. In the near future, an increased focus on onboarding technology might emerge as remote work models and digitalization of processes mature.

### *Onboarding Technology and Four C's/Adjustment*

Besides providing evidence on the influence of the themes of organizational socialization and user experience on the acceptance of such technology, this study sheds light upon the desirable achievement of onboarding objectives through technology. The state of the art at SAP is set in contrast with the four building blocks of onboarding – compliance, clarification, culture, and connection (Four C's) by (Bauer, 2010) and the points of adjustment to organizational socialization – role clarity, self-efficacy, acceptance by organizational insiders, and knowledge of organizational culture (Bauer & Erdogan, 2011).

E-learning and standardized data entry forms ensure *compliance* with legal and policy-related rules and regulations. Through constantly updated, country specific mandatory fields the user completes documents (i.e. health, tax and bank registration) validating a successful employment. The findings revealed the importance of *clarifying* expectations on both sides to keep retention rates and unexpected surprises to a minimum. Starting with a clear job posting in the recruitment phase, moving on to a detailed road map with goals and achievements tracked and notified through the solution. Promptly, *role clarity* evolves through management relevant



or self-assigned virtual trainings and communication with peers. Pulse surveys safeguard the well-being of the new joiner. Consequently, the newcomers start to understand their new jobs and become productive in a *self-efficient* manner. The overall performance becomes measurable through applied metrics and real-time feedback. The *culture* of the hiring organization is transferred via welcome messages, corporate presentations, and more informally the onboarding buddy. The technology persuades in its social network *connecting* newcomers with colleagues virtually and in-person. Events, casual lunch dates, and helpful contacts are being shared through the onboarding buddy and the corporate search function or assigned through management. However, the technology is of high assistance to the newcomer in fostering a successful incorporation and at its best leads to *acceptance by organizational insiders*.

## **5.2 Balancing Drivers and Barriers**

The previously detailed literature neglected the challenges and barriers of accepting onboarding technology. Not detailing the reasons, motivations, and the role of the stakeholders involved. The research's findings contribute to this gap by suggesting that misconceptions of high complex implementations, onboarding as a non-iterative process, and its implementation costs must be corrected.

The rapid migration to digital technologies driven by the pandemic has a positive impact on the digitalization of onboarding activities. Through remote-work arrangements, geographical dispersion of the workforce, and increasing size of businesses, they are in desperate need of digitalized, automated processes. As time goes on, technology for onboarding will gain even more momentum. The businesses as implementors turn out to be essential catalysts of this innovation. Driven by the desire to engage with new technologies, profit from positive monetary implications, and preparation for the future. The transition to a digitalized onboarding process should be led by organizations. Leading businesses will appreciate the value of onboarding technology and integrate it well into the organization to smoothen onboarding activities. Complex onboarding processes need to be re-evaluated and adjusted to make an implementation through leading practices feasible. Further, businesses understand that the value of onboarding technology requires not only customized features and exquisite design but internalizing the technological mindset to ensure acceptance. Ultimately, the main actors' motivation to use the technology is influenced by its perceived usefulness, ease of use, and user experience. A clear strategy to facilitate the use for onboarding purposes, and a mission to user engagement is needed to influence the intention of users to begin, and continue, to use the

technology. Motivational efforts can be supported by social networks, gamification, and personalized e-learnings. Globally active corporations need to pay attention to cultural circumstances of the users. The customization of the onboarding solution must be undertaken in respect to local requirements and realities to successfully target the expectations of the users. Culturally sensitive content must appeal to usability, accessibility, and site interaction. Extensive research is necessary to market the solution accordingly. Minor technological problems, such as the availability and reliability of internet connections, are out of the organization's area of responsibility. Solely the newcomer is responsible for flawless operating conditions. On the other hand, the organization must solve barriers in the complexity of the solution's design, such as privacy issues, standardization, and usability. While most technical barriers will probably fade as the technology matures, the physical-digital gap might not vanish.

#### *Success Factors*

In addition to the found barriers and drivers of the acceptance of onboarding technology, the data analysis lead to several aspects that contribute significantly to the innovation's success. On the one hand, these are application-related aspects which can mitigate barriers. On the other hand, technology management-related topics referring to major challenges in terms of organizational and cultural barriers. The following factors promote the success in onboarding technology's user acceptance:

- *Smart combination of multiple elements,*
- *Multi-actor conviction,*
- *Iterative process,*
- *Educational capacity building.*

#### *Smart combination of multiple elements*

Through the smart combination of several elements, barriers can be overcome, and systems might have a greater acceptance. As described earlier, the physical-digital problem lacking human interactions represents a significant hurdle to the solution's success. However, the research's findings suggest that several human touchpoints need extra attention and further development. To not take the human component out of the process, social media and communication enabling features are implemented into the technology. Welcome messages and videos provide the first emotional touchpoint, the assigned onboarding buddy is available to answer casual questions, and the interaction with team members and peers is enabled through

organizational charts. The challenge in the successful acceptance of technology for onboarding is to find a balance in not making the user feel like interacting with a machine.

Even though, in this case SuccessFactors includes an application-specific data standard, universal onboarding standards are required to achieve high acceptance of the solution. Users experience a learning curve and more proficient interactions through repetitive actions. A single leading design pattern in the whole SuccessFactors suite can foster familiarity and perceived ease of use with the system as well as faster acceptance. Next to this, the use of design patterns can speed up the development process of subsequent versions of the technology.

The data analysis showed that users desire the conjunction of onboarding technology with other commonly used tools, such as Microsoft Teams and Word. This indicates that solely using one technology might not be the most effective solution. Rather, it is necessary to consider the specific architecture of the solutions and incorporate the aspects described above. Further a new combination of remote and on-site working, a hybrid virtual model can speed up the need and thus, extension of applied technology for onboarding. Post-pandemic, previously proofed processes will be reimagined, and new opportunities risked.

#### *Multi-actor conviction*

The presented barriers of onboarding technology's acceptance intensify the need for strategies that mitigate organizations' resistance to change and the tensions between short-term economic profits and long-term benefits for the workforce. In this context, this study highlights the necessary involvement and commitment of multiple actors to drive the acceptance of onboarding technology. Next to organizational users, in the development and implementation phase the two major departments IT and human resources need to assess and work closely together. This collaboration strives for best outcomes if the exchange of ideas results in mutual consent. Outside corporate walls, academic institutions need to be included to set the subject more into focus. Proven research provides an acknowledged basis for further testing in practice.

#### *Iterative process*

Onboarding goes beyond the pre-onboarding and first day activities to a longer, more involved, one-year long process. The goal is to develop an onboarding program that engages, employees, encourages them to seek out feedback, and assists in the development of job critical skills. A digital onboarding can benefit as a traceable, consolidated tool to monitor newcomer's activities through an early and engaged involvement from the moment the recruitment is completed to

the achievement of full productivity. Within the roadmap feature all stakeholders have visibility to track and evaluate progress.

#### *Educational capacity building*

To get the different stakeholders on board and communicate the necessity and advantages of technology for onboarding, education is a crucial aspect. Due to the novelty of technology for organizational socialization purposes, many stakeholders lack knowledge. Educating all stakeholders about the features, possibilities, advantages, and disadvantages of technologies for onboarding is an important success factor from an acceptance perspective. Through building relationships and networks further communication, cooperation and knowledge exchange with partners can take place. Lastly, inducing the readiness of adopters to deeply engage into adjusting generic onboarding processes to enable a smooth and feasible transition to a digital onboarding.

### **5.3 Capturing the Bigger Picture**

Onboarding technology could enable a shift to the needed state of user trust and data transparency in which collaboration of all actors provides the basis for successful technology acceptance. Through investments in research and development, biases and misconceptions in the use of technology for onboarding can be overcome. In fact, the complexity of specific company's processes needs to be reviewed and restructured in its core activities to enable a standardized customization of the technology. If not so, "*you did not make it better. You only made it digital*" (I\_4). The future contains many prospects for the enhancement of technologies in practice.

#### *State of the Art versus Future*

Through the insights of this study, the identified factors can be taken into consideration prior the user's first incident with the technology. For instance, impeding personality traits can be assessed and then mitigated or resolved to strive for a higher technological acceptance. At this moment, the application's opportunities through added features are not yet completely enabled but in progress. The use of SuccessFactors' novel functionalities for the full spectrum of onboarding activities at SAP Portugal is advised. An early involvement with the technology enhances the chances of user acceptance through familiarity. Besides, the technology becomes

unavoidable as further human resource management is conducted with other modules of the tool (i.e. payroll, workforce, and talent management).

Trends in the field of human resources project a bright future for the implementation of technology. Diverse application opportunities arise focusing on artificial intelligence, machine learning, data science, statistics, and more, to reach the full potential of its users. The shift of the organization's mindset and actions to embrace change and break routines is crucial. Especially in times of exceeding remote work arrangements. Onboarding technology's impact is not easily measurable in numbers, a growth mindset will embrace challenges as an opportunity to learn and enjoy its outcomes in lowered retention rates as well as more socially integrated and efficient employees. Hence, decreased costs for replacements and indirectly reduced productivity will justify its high initial time, effort, and costs. Companies shifting their onboarding processes to a digitalized approach will stay up-to-date and benefit from the adjustment on the long run.

#### *Conceptual Onboarding Technology Acceptance Model*

The conceptual model provided in this study comprehensively summarizes the factors influencing the organizational socialization of a newcomer through technology acceptance. Even though it does not reflect possible interdependencies between the factors, it contributes to research by showcasing the multitude of influences affecting the innovation. While these findings are derived from a specific context, they highlight insights that are similar to broader research streams related to innovation, technology and human resource development. The influence of onboarding technology has been described as direct and incremental, facilitating processes, and creating the necessary collaboration between stakeholders. Nonetheless, the combination of several fundamental elements determines the innovation's acceptance, such as enabling a broad usability, balancing compliance issues, or providing appropriate organizational incentives. Moreover, the impact of technology for onboarding is perceived to be high but still is accompanied by several tensions (i.e. total length of onboarding process). Solely considering the technological ramifications is insufficient, all named factors of the model need to be taken into consideration to seek a successful acceptance of the technology. Furthermore, it is suggested to study the relationship between these factors in the light of technology acceptance research and explore further practical and theoretical implications. In this context, the broader research question about the main factors influencing the acceptance of onboarding technology can be answered with the finalized model. The factors user

characteristics, behaviors, organizational efforts, and user experience have an influence on the acceptance of onboarding technology.

Despite the identified potentials and overlaps between the concepts of onboarding and technology acceptance, it can be concluded that technology for onboarding is still in an early stage, requiring a considerable amount of commitment from the involved actors and changes in solution development and human resource processes.

## **6 Implications**

The findings of this study shed light on the potential, drivers, and barriers of onboarding technology's acceptance. To transfer the empirical insights to the provision, adoption, and support of onboarding solutions in theory and practice, the following paragraphs outline implications for academic research and organizations. The empirical data details information from interviewees from one specific onboarding solution. The results and their implications are mainly derived from insights into SAP SuccessFactors but can for the most part be applied to other onboarding technologies. The implications are formulated with the intention to increase the user acceptance of technology for onboarding purposes.

### **6.1 Theoretical Implications**

The findings on the acceptance factors of onboarding technology advance prior research by noting that solely considering the initial factors of the Technology Acceptance Model (Davis, 1989) is insufficient. The factors of organizational socialization (Bauer & Erdogan, 2011): new employee's characteristics, behaviors, and organizational efforts as well as user experience were comprised into the external variables of the model.

***Proposed model.*** As the use of technology for onboarding is a relatively new touch point in research, it is in need of further exploration. The developed conceptual model expands the scope of organizational socialization theory in combination of the widely used TAM, with a set of new and existing variables drawn from literature and empirical data. Building a basis for profound quantitative measurements. Tests of this model may indicate points of actions. In which recent technical developments are able to provide support to those who employ onboarding technology, as well as those who research it. A mixture of causes that are accountable for employee's decisions to adopt the system. Enabling them to put their opinions in place and boosts the adaption of the digitalization. Moreover, recommend enhanced, faster, and more efficient solutions that are of use to all stakeholders. Additional studying of the magnitude of relationships between the factors and general applicability to other onboarding technologies is suggested.

## 6.2 Practical Implications

One of the research objectives was to suggest recommendations for future actions that can help increase and improve the acceptance of onboarding technology at SAP Portugal and related organizations. The study was able to identify ways to achieve this in a realistic manner, taking the users' views, as well as social, cultural, and technological factors into consideration. To ensure that onboarding technology's impact on the organizational socialization of a new hire meets its promise, several crucial aspects should be considered by firms that use, and/or develop these solutions.

**Technology development.** Initiatives across the research of new onboarding solutions are advised to pay attention to the subsequent elements when developing their product. To navigate around the physical-digital issue and ensure that the data entry process and platform interaction is designed to maximize the perceived ease of use and minimize mistakes, organizations should try to include simplified patterns and data entry fields. The focus should be set on the design of the solution. SuccessFactors is perceived as user-friendly and intuitive. For advancements, user-centric design with low expected mental effort is advised to be followed throughout the solution portfolio. Hence, the creation of a simple user experience to ensure the usability of onboarding technology for every user, including those with less technological affinity, is vital. Provided online tutorials on the utilization can be of help to demonstrate how users can use and interact with the system. An option to integrate data from systems already in use should be considered to overcome data entry fatigue issues. The development of the technology should take place iteratively, with a focus on testing the usability and accessibility with users in practice. Moreover, the missing human aspect plays a great role in the organizational socialization of a new hire. New tech advancements such as chatbots, virtual office showings, video, chat and voice telecommunication applications, as well as social media can indirectly mitigate the issue of the missing human touch. Within the research process, the help of data science as in artificial intelligence, analytics, and machine learning, makes it possible to transform organizations, industries, and societies in general. The conduction of session with the solution's customers to discuss the physical-digital problem may also help to find solutions.

**Managing technology.** Several management-related implications can be derived from the data. Onboarding technology has been found to be a multi-actor driven endeavor. Hence, organizations providing applications are recommended to include experts from all three



departments, HR, IT and management, in the design and development of their solutions. For instance, mandatory data requirements from a legal perspective are given by human resources, whereas IT ensures the compatibility of data to their consolidated corporate database. For further improvement even the new hire's input during and after the utilization becomes beneficial. Moreover, as onboarding digitalization deals with a very technologically intensive product, the assessment of behaviors and characteristics of the users also contribute valuable insights. Cultural differences are prompt and need to be assessed intensively. Management has the obligation to encourage their staff to take up new technological systems by providing training, incentives, and support. Managements' perception of the usefulness of the technology depends on the user's confidence in the solution. Subsequently, a persuasive image of the solution has to be communicated. Additionally, to overcome organization's resistance to adopt onboarding technology, solution providers and applying organizations are recommended to advance knowledge about the solution by conducting educative talks and workshops with stakeholders, as well as publish explanatory reports and fact sheets. Hereby, the crucial aspect of creating and defining value propositions that detail not only user specific benefits but future monetary implications for customers. These trainings may decrease anxiety levels amongst users, which would lead to an increased technological acceptance. Even though this might be complicated, successfully marketing the solution requires a clearly outlined proposition. Primarily focusing on organizations that already have the mindset to change their onboarding processes towards a digitalized approach could also support innovation adoption. In the future, other, potentially not as progressive organizations, can be convinced by showcasing success stories.

To cope with the uncertainty that accompanies the potential and suitability of onboarding technology, organizations looking to adopt a solution should determine the reasons and their goals of choosing the digitalization. By comparing the motives to implement with the potential benefits, mutual overlaps can be identified and taken into consideration with the workforce's general behaviors and characteristics. The organization-solution fit tends to be more accurate.



## 7 Limitations

The context and design of this study include some limitations. The process of onboarding a new employee has a high degree of complexity with multiple impact and context factors, hence, may limit the applicability of the results in other cases (Fagerholm et al., 2013). As a preliminary analysis, not all factors were examined in detail, not mentioned factors may play a role. For instance, the not in detail observed circumstances of the first day might entail factors which's influence is of impact. Although technologies start to promote changes in the nature of socialization, companies will remain core features of the process intact due to limitations in their capacities (Flanagin & Waldeck, 2004). The execution of a fully digitalized onboarding process is not feasible under current circumstances. Onboarding processes are too specific to be fully integrated in one standardized and affordable onboarding solution.

The selected factors of the Technology Acceptance Model (Davis, 1989) and the Socialization Process Model (Bauer & Erdogan, 2011) used in this study reduced the breadth of themes that may have resulted from the data if an entirely inductive approach was followed. On the other hand, following a deductive approach allowed the analysis to target factors that relate especially to technology acceptance, which was the goal of this research (Money et al., 2015). Disadvantages in contrast to other methods occur regarding the applied methodology. On the one hand, the flexibility aspect of the thematic analysis has its advantages, on the other, the range of analytic options also broadens the data to an extent where it becomes difficult to develop specific guidelines for higher-phase analysis, limiting the researcher in her/his interpretative power (Braun & Clarke, 2006). A foundational canon of the thematic analysis is sampling (Dubois & Gadde, 2002). In the present study, time restrictions limited the ability to await theoretical saturation from interview data. As such, the sample size was limited to six interviews. Despite this restraint, towards the end of the data collection interviews continuously revealed similar patterns. Additional time might have provided the ability to re-consult past interview partners for clarification or expose more factors influencing the acceptance of onboarding technology. Another study limitation is the focus on interview data for the analysis. Further analysis of grey literature could have generated interesting contrasts to the interview data. When discussing qualitative studies and the respective findings, the question of generalizability innately comes up. The last limitation related to the case study is its low acceptance as a proper scientific methodology. As all interviews belong to the same organization, little basis for scientific generalization is offered (Yin, 2013). Due to its situation specific nature, statements by the interviewees may not be applicable to the socialization

processes in general, nonetheless, provide beneficial aspects that may stay hidden in other settings. Knowledge from a specific case and its extensive applicability should be considered a strength rather than a weakness (Dubois & Gadde, 2002). There is no statistical evaluation of the construct validity of the activity metric. Since this study presents preliminary results, it can be treated as a pilot study which adds to the evaluation of construct validity (Fagerholm et al., 2013). Current research has shown that new employee's characteristics, behaviors and organizational efforts are influenced by technology (Azidah & Ong, 2020; Bauer, 2010). The findings correlate with these theoretical assumptions. Nonetheless, a single case study cannot demonstrate construct validity.

## **8 Conclusion and Future Research**

The use of technology for the digitalization of processes has led to speculations about its potential to support the onboarding of a new hire (e.g. Arnold, 2010; Azidah & Ong, 2020). This research aimed to unearth this potential and capture factors influencing its acceptance by empirically exploring technology used for onboarding. The interviews with experts in the human resource environment, newly hired individuals, and consultants for onboarding technology at the globally operating SAP SE, paired with further insights into the firm-owned solution SuccessFactors, draw a realistic understanding of the research's subject. Doing so, all previously listed objectives and research questions were covered and accurately answered.

The user's characteristics, behaviors, organizational efforts, and user experience have been found to influence the acceptance of onboarding technology. SuccessFactors is perceived as useful, easy to use, and SAP undertakes a well-balanced mix of formal and informal socialization tactics in its onboarding process. The findings enrich the knowledge about the role of technology in the digital transition of onboarding as they clearly visualize potentials in its adoption. Furthermore, the study highlights that the emerged conceptual Onboarding Technology Acceptance Model can be universally applied to assess factors of influence in different settings. To ensure success, it requires considerable changes of existing behaviors, processes, and design aspects from all parties involved. As this study analyzed onboarding technology's acceptance from a human resource as well as technology management perspective, it stresses the driving forces of various actors and illuminates the crucial role of barriers to the innovation's adoption. User's resistance to change, unfamiliarity with the solution, the lack of social interaction, no integration with commonly used tools, the complexity of the process for customization purposes, the uncertainty about the technology's potential, lack in PU, PEOU, and UX, as well as further technological, financial, and cultural barriers impede acceptance of the innovation. In addition, the findings point to the critical aspect of the need for digitalization in times of crisis and resulting remote work models, geographical dispersion of the workforce, consolidation of data, and reduction of manual tasks.

This study contributes to literature about technology use in organizational socialization by emphasizing the importance to investigate the innovation from a multi-actor perspective to capture the underlying potentials and influences. Moreover, it extends prior research by exploring the drivers, barriers, and success factors of the acceptance of onboarding technology

and contrast these findings to organizational socialization- and technology acceptance-specific literature. Thus, gaining important implications for businesses, theory, and future research. Given the urgency to adapt solutions to counteract the conditions of work in the Covid-19 pandemic, accelerating the transition towards a digitalized onboarding process represents a crucial task. Onboarding technology supports all three stages of the organizational socialization of a newcomer – pre-onboarding, first day/week, and subsequent year by facilitating multi-actor collaboration through communication and interaction. However, to exploit the potential of onboarding innovation, companies need to be willing to adapt their prevailing way of doing things and the increased user-centric design of the technology is essential.

The findings of this study provide a foundation for future research in the field of technology design, IT and HR management. As the data stems from interviews with a provider of onboarding technology, the findings are characterized by the subjective perceptions of these informants. Thus, it is recommended that future studies explore the acceptance of onboarding technology of other organizations that adopt or eventually produce the innovation. That way, this study's findings could be complemented with the experiences of organizations that are looking to implement, or have implemented, onboarding technology to support their human resource management strategy. By this means, qualitative studies could provide further insights into the identified lack in social interactions and potentially add further drivers and barriers, as well as factors of influence. To investigate the tension between the digitalization of processes and the economic aspects, specific research on business models on the cost structure and financial prospects may help to identify short-term economic benefits. Hereby, strategies to overcome the difficulty to define value propositions and the identified tensions between proven working processes and driving digitalization could be explored.

The conceptual model provided in this study captures the factors influencing the user acceptance of onboarding technology. Unfortunately, it does not draw on evidence to explore the magnitude of linkages between the drivers, barriers, and success factors. It is recommended that scholars further investigate the factors on a quantitative and qualitative basis. Another avenue for further research is the examination and testing of the model on a quantitative level. Evaluating its desired reliability and validity, striving for general applicability. Furthermore, the role of management in fostering the technology's acceptance through the assessment of specific user types and scenarios need guidance in recommended actions. Lastly, the development of onboarding technologies demands further investigations.

This study is one of the first qualitative investigations of the influencing factors of onboarding technology. It paves the way for future research and hopefully motivates others to contribute. The findings reveal various implications for different research streams, which can be attributed to the nature of the concepts of technology acceptance and organizational socialization, technology design, as well as IT and HR management. Discoveries from this study give the impulse for interdisciplinary research, but the question is how to wisely combine these different approaches.





## Bibliography

- Adkins, C. L. (1995). Previous Work Experience and Organizational Socialization: A Longitudinal Examination. *Academy of Management Journal*, 38(3), 839–862. <https://doi.org/10.2307/256748>
- Allen, T. D., Eby, L. T., & Lentz, E. (2006). Mentorship Behaviors and Mentorship Quality Associated with Formal Mentoring Programs: Closing the Gap Between Research and Practice. *Journal of Applied Psychology*, 91(3), 567–578. <https://doi.org/10.1037/0021-9010.91.3.567>
- Alturas, B. (2020). Models of Acceptance and Use of Technology Research Trends: Literature Review and Exploratory Bibliometric Study. *Recent Advances in Technology Acceptance Models and Theories by Springer Book Series Studies in Systems, Decision and Control*.
- Arnold, J. T. (2009). Gaming technology used to orient new hires. *Society for Human Resource Management HR Trendbook*, 1(53), 36–38.
- Arnold, J. T. (2010). *Ramping Up Onboarding: Effective employee onboarding often begins with a click*, from [https://www.shrm.org/hr-today/news/hr-magazine/pages/0510agenda\\_tech.aspx](https://www.shrm.org/hr-today/news/hr-magazine/pages/0510agenda_tech.aspx). Access date: 24.08.2020.
- Ashford, S., & Nurmohamed, S. (2012). From Past to Present and Into the Future: A Hitchhiker's Guide to the Socialization Literature. In C. R. Wanberg (Ed.), *The Oxford Handbook of Organizational Socialization* (pp. 8–24). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199763672.013.0002>
- Ayehu. (2016). *Using IT Process Automation to Eliminate Silos and Create a More Unified, Efficient Environment*, from <https://ayehu.com/using-process-automation-eliminate-silos-create-unified-efficient-environment/>. Access date: 01.10.2020.
- Azidah, A. Z., & Ong, C. J. (2020). Exploring Digital Onboarding for Organisations: A Concept Paper. *International Journal of Innovation, Creativity and Change*, 13(9), 734–750.
- Bauer, T. N. (2010). Onboarding New Employees: Maximizing Success. *SHRM Foundation's Effective. Practice Guidelines Series*, 1(1), 37. <https://www.shrm.org/about/foundation/products/documents/onboarding%20epg-%20final.pdf>
- Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents,

- outcomes, and methods. *The Journal of Applied Psychology*, 92(3), 707–721.  
<https://doi.org/10.1037/0021-9010.92.3.707>
- Bauer, T. N., & Erdogan, B. (2011). Organizational socialization: The effective onboarding of new employees. In S. Zedeck, A. Aguinis, W. Cascio, M. Gelfand, K. Leung, S. Parker, & S. Zhou (Eds.), *APA Handbook of I/O Psychology* (Vol. 3, pp. 51–64). APA.  
<https://doi.org/10.1037/12171-002>
- BCG, & WFPMA. (2012). *From Capability to Profitability. Realizing the Value of People Management, from* [https://image-src.bcg.com/Images/BCG\\_From\\_Capability\\_to\\_Profitability\\_Jul\\_2012\\_tcm9-103684.pdf](https://image-src.bcg.com/Images/BCG_From_Capability_to_Profitability_Jul_2012_tcm9-103684.pdf).  
Access date: 01.10.2020.
- Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The Case Research Strategy in Studies of Information Systems. *MIS Quarterly*, 11(3), 369–386. <https://doi.org/10.2307/248684>
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. SAGE Publications.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Brown, D. J., Cober, R. T., Kane, K., Levy, P. E., & Shalhoop, J. (2006). Proactive personality and the successful job search: A field investigation with college graduates. *The Journal of Applied Psychology*, 91(3), 717–726. <https://doi.org/10.1037/0021-9010.91.3.717>
- Caldwell, C., & Peters, R. (2018). New employee onboarding – Psychological contracts and ethical perspectives. *Journal of Management Development*, 37(1), 27–39.  
<https://doi.org/10.1108/JMD-10-2016-0202>
- Caldwell, D. F., Chatman, J. A., & O'Reilly, C. A. (1990). Building organizational commitment: A multifirm study. *Journal of Occupational Psychology*, 63(3), 245–261.  
<https://doi.org/10.1111/j.2044-8325.1990.tb00525.x>
- Carter, T. (2015). Hire Right: The First Time: How to Improve Your Recruitment & Onboarding Process. *Journal of Property Management*, 80(3).  
<https://www.questia.com/read/1G1-433009998/hire-right-the-first-time-how-to-improve-your-recruitment>
- Chan, D., & Schmitt, N. (2000). Interindividual differences in intraindividual changes in proactivity during organizational entry: A latent growth modeling approach to understanding newcomer adaptation. *The Journal of Applied Psychology*, 85(2), 190–210.  
<https://doi.org/10.1037/0021-9010.85.2.190>

- Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. SAGE Publications.
- Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). SAGE Publications.  
<https://doi.org/10.4135/9781452230153>
- Coyne, I. T. (1997). Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *Journal of Advanced Nursing*, 26(3), 623–630.  
<https://doi.org/10.1046/j.1365-2648.1997.t01-25-00999.x>
- D'Aurizio, P. (2007). Onboarding: Delivering on the promise. *Nursing Economics*, 25(4), 228–229.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace<sup>1</sup>. *Journal of Applied Social Psychology*, 22(14), 1111–1132. <https://doi.org/10.1111/J.1559-1816.1992.TB00945.X>
- Davis, F. D., & Venkatesh, V. (1996). A critical assessment of potential measurement biases in the technology acceptance model: three experiments. *International Journal of Human-Computer Studies*, 45(1), 19–45. <https://doi.org/10.1006/IJHC.1996.0040>
- Depura, K., & Garg, M. (2012). Application of Online Gamification to New Hire Onboarding. In S. Towers (Ed.), *2012 Third International Conference on Services in Emerging Markets (ICSEM): 12 - 15 Dec. 2012, Mysore, India* (pp. 153–156). IEEE.  
<https://doi.org/10.1109/ICSEM.2012.29>
- Dubois, A., & Gadde, L.-E. (2002). Systematic Combining: An Abductive Approach to Case Research. *Journal of Business Research*, 55(7), 553–560. [https://doi.org/10.1016/S0148-2963\(00\)00195-8](https://doi.org/10.1016/S0148-2963(00)00195-8)
- Ellis, P. F., & Kuznia, K. D. (2014). Corporate eLearning Impact on Employees. *Global Journal of Business Research*, 8(4), 1–15.
- Entrepreneur. (2016). *4 Reasons Technology Is the Future of Onboarding, from*  
<https://www.entrepreneur.com/article/276387>. Access date: 01.10.2020.
- Fagerholm, F., Johnson, P., Guinea, A. S., Borenstein, J., & Munch, J. (2013). Onboarding in Open Source Software Projects: A Preliminary Analysis. In *2013 IEEE 8th International Conference on Global Software Engineering workshops (ICGSEW): 26 Aug. 2013, Bari, Italy ; proceedings* (pp. 5–10). IEEE. <https://doi.org/10.1109/ICGSEW.2013.8>

- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wesley series in social psychology. Addison-Wesley.
- Fisher, A. (2005). Starting a new job? Don't blow it. *Fortune Magazine*, 1(151), 48–51.  
<https://fortune.com/2011/04/01/just-got-promoted-how-not-to-blow-it/>
- Flanagin, A. J., & Waldeck, J. H. (2004). Technology Use and Organizational Newcomer Socialization. *Journal of Business Communication*, 41(2), 137–165.  
<https://doi.org/10.1177/0021943604263290>
- Glaser, B. G., & Strauss, A. L. (1967). *Discovery of grounded theory: Strategies for qualitative research*. Aldine Publishing Company.
- Hall-Ellis, S. D. (2014). Onboarding to improve library retention and productivity. *The Bottom Line*, 27(4), 138–141. <https://doi.org/10.1108/BL-10-2014-0026>
- Harvard Business Review. (2015). *Technology Can Save Onboarding from Itself*, from <https://hbr.org/2015/03/technology-can-save-onboarding-from-itself>. Access date: 01.10.2020.
- Herzberg, F. (1959). *Motivation to work*. Wiley.
- Jagannathan, A. (2014). Determinants of employee engagement and their impact on employee performance. *International Journal of Productivity and Performance Management*, 63(3), 308-232. <https://doi.org/10.1108/IJPPM-01-2013-0008>
- Jones, G. R. (1986). Socialization Tactics, Self-Efficacy, and Newcomers' Adjustments to Organizations. *Academy of Management Journal*, 29(2), 262–279.  
<https://doi.org/10.5465/256188>
- Kammeyer-Mueller, J. D., & Wanberg, C. R. (2003). Unwrapping the organizational entry process: Disentangling multiple antecedents and their pathways to adjustment. *Journal of Applied Psychology*, 88(5), 779–794. <https://doi.org/10.1037/0021-9010.88.5.779>
- Klein, H. J., & Polin, B. (2012). Are organizations on board with best practices onboarding? In C. R. Wanberg (Ed.), *The Oxford Handbook of Organizational Socialization* (pp. 267–287). Oxford University Press.
- Klein, H. J., Polin, B., & Leigh Sutton, K. (2015). Specific Onboarding Practices for the Socialization of New Employees. *International Journal of Selection and Assessment*, 23(3), 263–283. <https://doi.org/10.1111/ijsa.12113>
- Klein, H. J., & Weaver, N. (2000). The Effectiveness of an Organizational-level Orientation Training Program in the Socialization of New Hires. *Personnel Psychology*, 53(1), 47–66.  
<https://doi.org/10.1111/j.1744-6570.2000.tb00193.x>

- Krasman, M. (2015). Three Must-Have Onboarding Elements for New and Relocated Employees. *Employment Relations Today*, 42(2), 9–14. <https://doi.org/10.1002/ert.21493>
- Kraut, R., Burke, M., & Riedl, J. (2010). Dealing with Newcomers.
- Lee, Y., Kozar, K. A., & Larsen, K. R.T. (2003). The Technology Acceptance Model: Past, Present, and Future. *Communications of the Association for Information Systems*, 12(1). <https://doi.org/10.17705/1CAIS.01250>
- Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the Big Five to motivation to learn and development activity. *The Journal of Applied Psychology*, 91(4), 927–935. <https://doi.org/10.1037/0021-9010.91.4.927>
- Maurer, R. (2019). *New Employee Onboarding Guide: Proper onboarding is key to retaining, engaging talent*. Society for Human Resource Management, from <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/new-employee-onboarding-guide.aspx>. Access date: 19.08.2020.
- Money, A. G., Atwal, A., Young, K. L., Day, Y., Wilson, L., & Money, K. G. (2015). Using the Technology Acceptance Model to explore community dwelling older adults' perceptions of a 3D interior design application to facilitate pre-discharge home adaptations. *BMC Medical Informatics and Decision Making*, 15(1), 73. <https://doi.org/10.1186/s12911-015-0190-2>
- Morgan Stanley. (2018). *The Gig Economy Goes Global, from* <https://www.morganstanley.com/ideas/freelance-economy>. Access date: 05.10.2020.
- Ostroff, C., & Kozlowski, S. W.J. (1993). The Role of Mentoring in the Information Gathering Processes of Newcomers during Early Organizational Socialization. *Journal of Vocational Behavior*, 42(2), 170–183. <https://doi.org/10.1006/jvbe.1993.1012>
- Patton, M. Q. (1989). *Qualitative Evaluation Methods* (2nd ed.). SAGE Publications.
- Qualee. (2019). *The Four C's of Great Onboarding, from* <https://www.qualee.com/post/the-four-c-s-of-great-onboarding>. Access date: 04.10.2020.
- Remoters. (2020). *Remote Work Trends for 2020: The Present & Future of Remote Work, from* <https://remoters.net/remote-work-trends-future-insights/>. Access date: 05.10.2020.
- Saks, A. M., & Ashforth, B. E. (1997). Organizational Socialization: Making Sense of the Past and Present as a Prologue for the Future. *Journal of Vocational Behavior*, 51(2), 234–279. <https://doi.org/10.1006/jvbe.1997.1614>
- SAP SE. (2019). *Onboarding in the Digital Age and the Increasing Role of Technology in Shaping Employee Experience, from* <https://www.sap.com/documents/2019/03/269f89ef-437d-0010-87a3-c30de2ffd8ff.html>. Access date: 06.10.2020.

- SAP SE. (2020). *SAP Company Information*, from <https://www.sap.com/corporate/en/company.html>. Access date: 10.10.2020.
- SAP SuccessFactors. (2020). *What is SAP SuccessFactors*, from <https://www.sap.com/products/human-resources-hcm/about-successfactors.html?btp=cefcbe53-ef39-4ce0-b303-d1e05bc7efd1>. Access date: 10.10.2020.
- Stake, R. E. (1995). *Case Studies: The Art of Case Study Research*. SAGE Publications.
- Stein, M. A., & Christiansen, L. (2010). *Successful onboarding: A strategy to unlock hidden value within your organization*. McGraw-Hill Professional London.
- Suddaby, R. (2006). From the Editors: What Grounded Theory is Not. *Academy of Management Journal*, 49(4), 633–642. <https://doi.org/10.5465/amj.2006.22083020>
- Tanwar, K., & Prasad, A. (2016). Exploring the Relationship between Employer Branding and Employee Retention. *Global Business Review*, 17(3), 186–206. <https://doi.org/10.1177/0972150916631214>
- van Maanen, J., & Schein, E. H. (1979). Towards a Theory of Organizational Socialization. *Research in Organizational Behavior*, 1(1), 209–264.
- Wesson, M. J., & Gogus, C. I. (2005). Shaking hands with a computer: An examination of two methods of organizational newcomer orientation. *Journal of Applied Psychology*, 90(5), 1018–1026. <https://doi.org/10.1037/0021-9010.90.5.1018>
- Yin, R. K. (2013). *Case Study Research: Design and Methods* (5th ed.). SAGE Publications.
- Zahhly, J., & Tosi, H. (1989). The differential effect of organizational induction process on early work role adjustment. *Journal of Organizational Behavior*, 10(1), 59–74. <https://doi.org/10.1002/job.4030100105>
- Zidean, A. A., & Joob, O. C. (2020). Exploring Digital Onboarding for Organisations: A Concept Paper. *International Journal of Innovation, Creativity and Change*, 13(9), 734–750.

## Annexes

### Annex A: Interview Protocol

#### Interview Consent Form

Thank you for agreeing to be interviewed as part of this research project. I hereby inform you that I will audio record this interview. You will be anonymized so that you cannot be identified. The access to the interview transcript will be limited to colleagues and researchers of ISCTE. Nonetheless, the option to make the interview content available through academic publication is reserved. If you agree to this, please answer with 'yes', if not 'no'.

#### 1. Background<sup>4</sup>

- 1.1. Could you **introduce** yourself and your professional background?
- 1.2. Can you explain what your **position** at SAP is?
- 1.3. How long have you been **at the company**?

*"What are the main factors of acceptance of onboarding technology?"*

#### 2. (RQ1: What is the current state of onboarding technology at SAP?)

- 2.1. Could you walk me through the onboarding **process** and the used **technology** at SAP?
- 2.2. **AU** – What for and how is SF used for onboarding?
- 2.3. **PU** – SuccessFactors and perceived useful, can you elaborate on this?
- 2.4. **PEOU** – SuccessFactors and clear/easy usage, can you elaborate on this?
- 2.5. What do you consider the most **outstanding feature** of SuccessFactors for onboarding?

#### 3. (RQ2: What factors influence (drivers and barriers) the acceptance of onboarding technology?)

- 3.1. What are **characteristics** that a new employee (end user) can have that influence the acceptance of obt?
- 3.2. What **behaviors** should the new employee show or not show to accept obt?
- 3.3. Regarding the **effort** from the **organizational** side, what steps should or should not be done?
- 3.4. **Who inside the company** gets the **biggest benefit** of using obt (to ease the process of socialization)?
- 3.5. Can you elaborate on cases where obt did **not deliver results**?
- 3.6. Any **other factors** you think have an influence on the acceptance of obt?

#### 4. Future scenario

- 4.1. How do you see technology for onboarding evolving in the next 10 years?

#### 5. Closing question

- 5.1. Is there anything you would like to discuss regarding onboarding technology which we have not talked about?

---

<sup>4</sup> Sensitive data was not considered in the findings. It solely helped the researcher to put the interviewees into context and at ease.

## Annex B: Data Structure

No.		Code	Category I <sup>5</sup>	Category II	"+/-"
1	International teams	Cultural diversity	OB SAP	Characteristics	Pro
1	Tools outlook, skype, ppt	Several ob tools	OB SAP	AU	Contra
1	Topics: Knowledge SAP Portugal, SAP self-service portal (intranet) HR topics like leave request, pay slip, employee benefits program) + first questions/doubts	Components ob SAP	OB SAP		Pro
1	Nonetheless, used in function to search for compensation or job function details, orqa chart	Features	OB SF		Pro
1	Functions executable through other parties with access authorization	Access authorization	OB SF	PU	Pro
1	Easy presentation of career path within organization, emergency contacts, bonuses, paid by the hour (invariable payment)	Key data source	OB SF	PU	Pro
1	Productivity, Quality measurement, job easier	Perks	PU		Pro
1	(Comparison to social media, connecting, relationship building and maintaining)	Social media	OB SF	PEOU	Pro
1	Low mental effort, flexible, easy to learn	Easy	PEOU	OB SF	Pro
1	Access and notification/reminder for eLearning	Features	OB SF		Pro
1	Display workflows with approval	Features	OB SF		Pro
1	Automatic mailing system to remember	Features	OB SF		Pro
1	Some employees feel strange due to no in person/face to face interactions	Home office, times of crisis	Behavior	OB SAP	Contra
1	Solely computer (virtual means of communication)	Virtual	OB SF	Barrier	Contra
1	Important – Enthusiasm to learn and ask questions + to do her/his best	Enthusiasm	Behavior	Characteristics	Pro
1	No enthusiasm about technology	Barrier	Characteristics	Barrier	Contra
1	Preference in face-to-face	Preference	Characteristics	Barrier	Contra
1	Like + understand basic technology	Minimum requirement	Characteristics	OB SAP	Contra
1	Cannot be sad if fails to do something	Open to criticism	Characteristics	Behavior	Contra
1	Ask questions when in doubt, also to manager and onboarding buddy, HR or IT support	Outgoing/proactive	Characteristics	Behavior	Pro
1	Building relationships	Socialization	Behavior	Orga Effort	Pro
1	Working together towards the same objectives, no lone warriors	Team player	Characteristics	Behavior	Pro
1	Provide + maintain these trainings for updates	Provide trainings	Orga Effort	OB SAP	Pro
1	Info about hidden aspects of firm	Firm overview	Orga Effort	OB SAP	Pro

<sup>5</sup> Numerous codes could be matched to several categories The final grouping of categories was done via a filter in an Excel spreadsheet.



1	Have continuous ob plan	Formal ob	Orga Effort	OB SAP	Pro
1	Fully moving from Skype to SF	Harmonization of systems	Orga Effort	OB SAP	Pro
1	Initiating use of system prior start	Pre-screening during recruitment	Orga Effort	OB SAP	Contra
1	SF helps IT team, ob buddy, managers	Beneficiaries	OB SF	PU	Pro
1	No failed cases	No failure	OB SF		Pro
1	No internet connection at home (too many people using it), in regard to pandemic not at offices	Tech failure	Orga Effort	OB SF	Contra
1	In need of VPN (to establish secure connection)	Security	Orga Effort	OB SF	Contra
1	Technology affinity	Factor	Characteristics	OB SF	Pro
1	Hardware receival prior first day Headset and computer	To-do	OB SAP	OB SAP	Pro
1	Everything via Internet	Standard via internet	Future	OB SAP	Pro
1	Shift from several applications for onboarding to one holistic system (like SF)	Unified system	Future	OB SF	Pro
1	Unfortunately, face-to-face interactions will disappear slightly	No face to face	Future		Contra
1	Lesson learned through this time of crisis	Lesson learned	Future	OB SAP	Contra
2	First day - office, colleagues, buddy, strolling around	Great experience first day	OB SAP		Pro
2	Someone to count on for support	Buddy support	Orga Effort		Pro
2	Getting to know everybody + providing tools	Impeccable ob experience	OB SAP	PU	Pro
2	Hands-on approach on topics related to software configuration or lack of technical experience. In this case - Learning from scratch.	Self-learning on technical job aspect	OB SAP	PEOU	Pro/Con
2	Advice: Prepare yourself for; a lot of headaches, struggle, frustrations, and remember to preserver!	Struggle + frustration	PEOU	Barrier	Contra
2	No solely use for technological aspects, learn fundamentals about SAP through automatically assigned trainings	Fundamentals via autom assigned trainings	OB SAP	PU	Pro
2	SDC's structure, location of NSC, peers, and managers	Explanation of SDC	OB SAP	Feature	Pro
2	Present learnings in major company	Tech key part of ob	OB SAP	PU	Pro
2	Report incidents, request materials, access eLearning	Features SF	OB SF	Feature	Pro
2	People use SF for different reasons, but more potential to the use	More potential of usage	AU	OB SAP	Contra
2	Set up goal list, gran manager access to list, comment list	Features SF	OB SF	Feature	Pro
2	Useful but dependent on user's goal	Usefulness depended	PU		Pro
2	Follow ups of compliance test, performance management, constant feedback from mngmt, peers, goals setting and tracking	Makes job easier + more productive	PU	Feature	Pro

2	Easier handling as solution's consultant	Experience helps understandability	PEOU	OB SAP	Contra
2	For others easy intuitive to move from A to B	Intuitive	PEOU	OB SF	Pro
2	Most outstanding: workforce management	Holistic view for company	PU	Feature	Pro
2	Help section, launchpad	Help section	OB SF	Feature	Pro
2	Not specific module, benefit through complete solution	SF as a whole	OB SF	Orga Effort	Pro
2	System really matches market's needs and characterizes as complete	System completeness	OB SF	PU	Pro
2	Being open-minded, not everything is set in stone, especially with technology	Open-minded	Characteristics		Pro
2	Even if tech enthusiast and great knowledge about certain system or software, there will always be new releases, functionalities	Tech enthusiast	Characteristics		Pro
2	Having mindset of willingness to learn never stand still	Mindset of willingness to learn	Characteristics		Pro
2	Person who has been out of touch with technology	Out of touch	Characteristics	Barrier	Contra
2	Easier for people who grew up around computers	Experience	Characteristics	PEOU	Pro/Con
2	Unfamiliarity with technology	Unfamiliarity	Characteristics	PEOU	Contra
2	Never be afraid to ask questions or reach out	No hesitation/fear	Characteristics	Behavior	Contra
2	Do not forget that you have a team (with manager)	Assistance manager/info seeking	Orga Effort	Behavior	Pro
2	Build bridges not silos (within the company – knowledge sharing)	Info sharing	Orga Effort	Behavior	Pro
2	Reach out + talk to people, Need of personal contact (e.g. shadowing)	Shadowing	Orga Effort	Behavior	Pro
2	Be yourself, do not pretend	Loyalty to true self	Characteristics	Behavior	Pro
2	Do not be afraid to make friends	Socialization	Orga Effort	Behavior	Pro
2	Provide someone to talk and give guidance	Buddy support	Orga Effort		Pro
2	Informal but needs to be assigned by manager	Informal buddy	Orga Effort		Pro
2	Support if difficulties with simple tasks (e.g. submit document)	Buddy support social + technical	Orga Effort		Pro
2	Buddy introduces to helpful contacts	First impression	Orga Effort		Pro
2	Central point to control employees + expenses	Control function	OB SF	Orga Effort	Pro
2	SF applicable to anyone working in a digital company	No specific user type	OB SF	OB SAP	Pro
2	Knowledge level of technology at managers	Tech literacy	Characteristics		Pro
2	Never heard of failure of onboarding tool	No failure SF	OB SF		Pro
2	Personal finances do not play a role, no colorful background	No specific user type	Characteristics	OB SF	Pro
2	Increasing size and globalization of organizations lead to automation of	Automation	OB SF	OB SAP	Pro

	manual work Pro: same amount of work with less human resources				
2	Necessity to have SF to run a successful global business	Magnitude	OB SAP	OB SF	Pro
2	Each user needs a license, in total can get expensive depending on size and budget	Licensing Cost	OB SF	Orga Effort	Contra
2	Countries banned to do business in or with (e.g. Iran, North Korea, etc.)	Legal regulations	OB SF	OB SAP	Contra
2	Readiness of organization to implement technology	Readiness	OB SF		Contra
2	Data sources of users + expected expenses	Data sources	OB SF	OB SAP	Contra
2	Holistic view on implementation (first draft to adopting a digital solution) Stigma of certain way to handle process – difficult to change to technological handling	Implementation vs stigma	OB SF	Orga Effort	Contra
2	SF modules can be adopted individually, no need for full adoption + adaption influences acceptance	SF modules influence acceptance	OB SF		Pro/Con
2	No fully virtual ob in chair with VR googles	Not fully virtual	Future		Contra
2	Removal of person from equation, stops focus on person, in a period where it should be about the person (onboarding)	No removal of person	Future	Orga Effort	Contra
2	Onboarding is about Getting to know everybody Being/feel accepted Ability to do job	Socialization, accepting + job ability	Orga Effort		Pro
3	Personal ob without any technology	Old-school ob	OB SAP		Contra
3	Company rapidly grew	Adjustment to company size	OB SAP	OB SF	Pro
3	Digital signature	Feature	OB SF		Pro
3	Documentation	Feature	OB SF		Pro
3	Road map to have guidance in the first year at SAP	Feature	OB SF		Pro
3	Info about colleagues and team	Feature	OB SF		Pro
3	To understand job role to know expectations from management	Basics/goals	OB SAP	PU	Pro
3	Simple solution that supports + helps user experience	Simple + UX	OB SF	PU	Pro
3	Easy interaction	Easy interaction	PEOU	OB SF	Pro
3	Use of smartphone to support prior activities of onboarding	Portable devices	PU	OB SF	Pro
3	Locate people in team prior to first day	Team members	OB SF	Orga Effort	Pro
3	Virtual office - Videotape to have preview of work environment	Virtual office	OB SF	Feature	Pro
3	Pre-view of future meetings	Calendar	OB SF	Feature	Pro
3	Display of links to specific information	Links	OB SF	Feature	Pro
3	Overall picture of team	Team members	OB SAP	Feature	Pro
3	Global overview of the new employee	Global overview	OB SAP	Feature	Pro
3	Ease to follow up on activities	Follow up	PEOU	Feature	Pro

3	Getting to know employee better	Connection	Orga Effort	Feature	Pro
3	Shows difficulties that arise in the first days	Help	Orga Effort	Feature	Pro
3	Schedule meetings within first days	Scheduling	OB SAP	Feature	Pro
3	Helps understand expectations	Expectations	OB SAP	Orga Effort	Pro
3	Useful for managers	Management	PU	Orga Effort	Pro
3	Clear and easy usage	Clear and easy	PEOU	OB SF	Pro
3	Evaluation via phone, no need to access system on PC	Mobility	PU	OB SF	Pro
3	Definition of activities in accordance with manager + monitoring + feedback	Definition of activities	OB SF	OB SF	Pro
3	Proof of achievement	Surveillance mechanism	PU	OB SF	Pro
3	Continuous performance process	Continuous improvement	PU	OB SF	Pro
3	Information dashboards	Feature	OB SF	Feature	Pro
3	KPIs (important for management)	Feature	OB SF	Feature	Pro
3	Notifications about deadlines	Feature	OB SF	Feature	Pro
3	To Do list, follow up tasks	Feature	OB SF	Feature	Pro
3	Ability to support	Support	OB SF	OB SAP	Pro
3	Visualization of org chart	Orga structure	OB SF	OB SAP	Pro
3	Not only to see picture but background info	Background info	OB SF	OB SAP	Pro
3	SF is the first tool a new hire has contact when entering the company	First impression	OB SF	OB SAP	Pro/Con
3	Sf is easy and user-friendly tool	User-friendly	OB SF	PEOU	Pro
3	SF is connected	Connected	OB SF	PU	Pro
3	Openness to information	Openness	Characteristics		Pro
3	Reserved personality	Reserved	Characteristics		Contra
3	Millennials are more willing to accept technology	Millennials	Characteristics		Pro/Con
3	Depending on personality type	Personality types	Characteristics		Pro/Con
3	Information should be consumed prior to start	Info pre-start	OB SAP	AU	Pro
3	Prior experience with technology matters	Experience	OB SF	Characteristics	Pro/Con
3	If already used to deal with HR topics with mobile phone On the other hand unfamiliarity might hinder acceptance	Unfamiliarity	OB SF	AU	Contra
3	Nowadays embracement of technologies	Embracement	Characteristics	Future	Pro
3	Honesty, well-being; experiences and feelings, conversations with teams	Openness	Characteristics	Behavior	Pro
3	More clear and simple approach what companies and what employees honestly expect, Discussion of all subjects and matters regarding performance of job	Clear expectations	Orga Effort	Behavior	Pro
3	Approach of communication	Communication	Orga Effort	Behavior	Pro
3	Clear message	Clear expectations	Orga Effort		Pro

3	Starting in recruiting to share clear picture about expectations to attract interesting people	Recruiting, attract	Orga Effort		Pro
3	Sharing the most important values of the company are crucial in the first moments of a new hire + consistency in doing so	Values	Orga Effort		Pro
3	Expectations match own principles - challenge	Expectations	Orga Effort	Behavior	Pro/Con
3	Social networks have powerful meaning Sharing company's image	Social networks	Orga Effort	OB SF	Pro
3	Social media forms external opinions about companies. Nowadays you do not go traveling without seeing impressions and comments of the destination. The same goes for a company	Social media	Orga Effort		Pro
3	HR department, new hires, everyone in company	Overall beneficiaries	PU	Orga Effort	Pro
3	SF is a democratic tool	Democratic tool	OB SF	PU	Pro
3	No difficulties in adopting SF at customers	Successful adoptions	OB SF	PEOU	Pro
3	Cultural characteristics can have an influence Easier for some countries to adopt onboarding paperwork	Cultural constraints	OB SF	Barrier	Contra
3	Digital paperwork – difficulties as connected to two legal procedures (company + country)	Legal constraints	OB SF	Barrier	Contra
3	Price specific models	Economic constraints	OB SF	Barrier	Contra
3	Specific use of technology for onboarding important	Ob only with tech	Future		Pro
3	Facing situation of remote work, in future as well will recruit and onboard employees remotely	Remote work	Future		Pro/Con
3	Importance of connection of tools to support these virtual meetings	Virtual meetings	Future		Pro/Con
3	SF connected to Microsoft Teams (General integration of virtual tools)	Integration	Future	OB SF	Pro
3	Regarding evolution and development of employee, onboarding just entry point, an open door to start talent management	Talent management	OB SAP	OB SF	Pro
4	1. Welcome session first week (goal to introduce onboardee to company's processes and structure + administrative aspects (how to book hours, schedule travels, etc.))	OB process	OB SAP		Pro
4	2. Onboarding buddy assignment – accompany first months in the company (learn + rely) Introduces to teammates or other people in the organization Casual lunch dates	OB process	OB SAP	Orga Effort	Pro
4	3. E-learnings – initially on compliance, internal processes, anti-discrimination policy, etc.	OB process	OB SAP	PU	Pro
4	SF onboarding used to collect information from new hire and	Collecting point	OB SF	AU	Pro

	facilitate integration within company				
4	New hire is moved over to onboarding platform when recruitment process ended, and new hire is identified.	OB process	OB SF	OB SAP	Pro
4	1. Validation of new hire's data (correctness) through human resource professional	3 steps in ob	OB SAP	OB SF	Pro
4	2. Request manager to perform activities, such as write welcome message (pops up first time access on platform), assign buddy (also gets notification and can get in touch with new hire, recommend people to meet, also get notification and can take initiative)	3 steps in ob	OB SAP	OB SF	Pro
4	Possibility of scheduling via mail to outlook calendar	Feature	OB SF		Pro
4	Checklists (status visible to and adaptability from manager and new hire)	Feature	OB SF		Pro
4	Option to furnish equipment, request laptop, cell phone or access card	Feature	OB SF		Pro
4	Goal setting (short-term 30, 60 and 90 days)	Feature	OB SF		Pro
4	Tiles to display recommended links (click for detailed view)	Feature	OB SF		Pro
4	After hiring manager activities notification of user creation is sent	User creation, notification	OB SF		Pro
4	Already at home accessible	Mobility	OB SF	PU	Pro
4	Page with pop up with welcome message and little tiles (recommendations of peers, the buddy, scheduled meetings)	Dashboard	OB SF	Orga Effort	Pro
4	To-do tile as pre-boarding activity	Pre-onboarding	OB SF	OB SAP	Pro
4	Request to enter personal information directly for employee record (name, emergency contact, bank details, home address)	Pre-onboarding	OB SF	OB SAP	Pro
4	Pre-onboarding – collection of information to help hiring Onboarding – social component (buddy, recommended links, welcome message)	Pre-onboarding	OB SF	OB SAP	Pro
4	There is no replacement of human aspect of ob (socialization) SF helps with everything else	Human aspect	PU	Future	Contra
4	Importance of getting in touch with team - socialization	Socialization	Orga Effort	PU	Pro
4	SF – sees onboarding as a piece of the recruit to hire process, essential piece in puzzle	Essential piece	OB SF	OB SAP	Pro
4	Collects all information for hiring without actually filling out a lot of forms, skipping long mails, copies of several documents, keeps info in	Benefits	OB SF	OB SAP	Pro

	one place, sends info seamlessly to hiring tool				
4	Integration of SF possible into on premise solution	Integration	OB SF	OB SAP	Pro
4	Consolidated information, all information at hand in one place	Distance of a click	PU	OB SF	Pro
4	Team members profiles	Profiles	PU	OB SF	Pro
4	SF learning – compromises all necessary courses as part of ob	eLearning	PU	OB SF	Pro
4	Very intuitive	Intuitive	PEOU		Pro
4	Tiles on homepage consolidate information – easy access (right in front of user – only one click)	Distance of a click	PU	OB SF	Pro
4	No need to contact help for instructions on use	Very easy to use	PEOU		Pro
4	Feature for HR: Consolidation of information through pre-/self-entered data	Beneficiaries	PU	OB SAP	Pro
4	User: Easy to use, Direct easy/quick access to information at any time	Beneficiaries	PU	PEOU	Pro
4	24/7 accessibility via mobile	Constant accessibility	PU	OB SF	Pro
4	Flexible to work conditions These days not confined to an office	Flexible	Characteristics	PU	Pro
4	Through remote work adoption of advanced and mobile technology cannot be avoided	Must adapt mobile	Behavior	OB SF	Pro/Con
4	Younger, so called modern, users are more likely to accept.	Younger profile higher acceptance	Characteristics		Pro/Con
4	People that embrace Change, New ways of working, New ways of accessing information	Embrace change	Characteristics	Behavior	Pro/Con
4	Openness to innovation/new technologies	Openness	Characteristics	Behavior	Pro/Con
4	Caught up in routines, Same work context, same tools for a long time, Can get uncomfortable	Routines	Behavior	Barrier	Contra
4	If resistant to change	Resistance to change	Behavior	PEOU	Contra
4	Influencing factor: Education level, Low literacy level	Influencing factors	Characteristics	PEOU	Contra
4	The more open you are towards new things, the easier it is to accept a new system.	Openness	Characteristics	Behavior	Pro/Con
4	Identification of points that will have an impact and improvement of situation, make life easier foster acceptance.	Perceived value	PU	OB SF	Pro/Con
4	Nothing replaces human contract – very important, especially in first days à help of buddy	Relationship building	Behavior	Orga Effort	Pro
4	The world is changing and face to face contact decreases. We are looking at times of new working arrangements (remote work and expats)	Remote work	Future	Orga Effort	Pro/Con

4	Important to spend time and get to know colleagues	Work family	Behavior	Orga Effort	Pro
4	Create culture of teamwork and friendship, Good work climate, Good relationships with co-workers,	Work culture	Orga Effort	OB SAP	Pro
4	Embrace differences in employee's culture and opinions, Respect	Embrace differences	Orga Effort	OB SAP	Pro
4	Happiness	Happiness	Orga Effort	OB SAP	Pro
4	Keep setbacks and difficulties low, Onboarding as smooth as possible in the first days, Time for what really matters (building relationships, fit in) Great mood	Great experience	Orga Effort	OB SAP	Pro
4	HR: Consolidated information in one place at distance of a click Easy and quick + Platform connects full HR spectrum – performance, compensation, succession, development, learning, and so forth access	Beneficiaries	PU	OB SF	Pro
4	HR: time and energy saving	Beneficiaries	PU	OB SF	Pro
4	SF characteristic – self-service Changes are made by user (perhaps approval workflow), No intricate mailing, ticket opening necessary	Features	OB SF	PU	Pro
4	Retention	Beneficiaries	PU	OB SF	Pro
4	Complex, custom processes make it nearly impossible to replicate them in the system (if not willing to tweak/redesign your process)	Openness to change, Flexibility	Characteristics	Orga Effort	Contra
4	Multinational companies are usually disconnected. Different onboarding of employees in France than in India. Not companies fault – simply cultural differences and diversity. Process needs to be handled according to acceptable and appropriate forms	Cultural barriers	Characteristics	Orga Effort	Contra
4	If complex with lots of exceptions from one country to another – in the end a complex configuration in the system, and only accomplishment was the digitalization of the process – non effectively, nor efficiently	Lower complexity	Characteristics	Orga Effort	Contra
4	Stand by your decision to use the platform. Sell and sponsor it within the company.	To Do Orga	Orga Effort		Contra
4	Extremely mobile	Phone	Future		Pro
4	Friendly for remote work	Remote work	Future		Pro
4	Integration of several tools in one platform. Onboarding calls, meetings, Chat bots, Surveys, Analytics	One platform	Future	Orga Effort	Pro
4	Investment and development pain points	Pain points	Future	Orga Effort	Contra
4	Move from SF Onboarding 1.0 to 2.0 – new version The same process	Version change	Future		Contra



	but better functionality as integrated with rest of SF suite				
4	Several features in road map. What is happening today may not be true tomorrow, The tool is constantly being developed	Constant change	Future	OB SAP	Pro/Con
4	Onboarding has set of steps. Each step has an owner. Validation of data in recruiting by recruitment, start of onboarding by local HR. At the same time activities performed by hiring manager. Second step is done by employee – providing data; Steps are in particular order, Moving steps not possible in standard way, Process too fixed for SF, Process needs to be switched around	Process at SAP	OB SAP	Barrier	Contra
5	Start ob after recruiting process completion, Incorporation of final candidate into the company	Incorporation	OB SAP	OB SF	Pro
5	Providing specific documents prior start	Start	OB SAP		Pro
5	Trigger involvement of HR, manager or IT	Invitation for action	OB SF	OB SAP	Pro
5	Access details provided prior to start to get data asap -completion of pre-defined tasks	Early access	OB SF		Pro
5	Learnings are prioritized	Prioritization	OB SF		Pro
5	Confirmation from previous companies about presented background	Background check	OB SAP	OB SF	Pro
5	Points of improvement (biased as experts on solutions)	Bias	OB SF		Contra
5	Easy use for managers + foster rlsph with employees	Easy use	PU	Orga Effort	Pro
5	Information and decisions in one single place, instead of jumping thousand pages. SF can provide this functionality	Consolidated info	PU	OB SF	Pro
5	Easy to learn	UX	PEOU	OB SF	Pro
5	Fast	UX	PEOU	OB SF	Pro
5	Handy	UX	PEOU	OB SF	Pro
5	Playful	UX	PEOU	OB SF	Pro
5	Interface user friendly	UX	PEOU	OB SF	Pro
5	all modules should have the same user interface, not the case at the moment	Improvement	OB SF		Contra
5	Improved end user experience - Usage of pattern in homepage tiles and form	UX	OB SF		Pro
5	Using same elements, same objects, same kind of rules and validations	UX	OB SAP	OB SF	Pro
5	Onboarding in employee central - Shows consistent message, internally and externally	Message	OB SAP	OB SF	Pro

5	Not 1000 clicks to complete task, Experienced refusal if too many clicks or pages	Friendly solution design	OB SF		Pro
5	Keep as simple as possible, Keep everything in same place (no jumps to external pages - integrations)	UX	OB SF	PEOU	Pro
5	Design -As users we expect same user-friendly experience as in private life (Facebook, etc.)	UX	OB SF	PEOU	Pro
5	Outgoing	Outgoing	Characteristics		Pro
5	Technology mindset	Mindset	Characteristics		Pro
5	Higher acceptance than logging into a website	Mobile version	OB SF	AU	Pro
5	Acceptance is contaminating, others will use as well	Trend	OB SF	AU	Pro
5	Speed	Speed	OB SF	PU	Pro
5	Openness, Flexibility	Flexibility	Characteristics		Pro
5	Chains make uncomfortable, Change acceptance readiness, early introduction	User readiness	Orga Effort	Characteristics	Pro
5	Social media	Social media	Orga Effort	OB SAP	Pro
5	Remote work, providing all necessary tools	Productivity	PU	OB SF	Pro
5	Looking out for new colleagues, Creation of internal networks	Organizational insiders	Orga Effort	Behavior	Pro
5	Information seeking	Thrive	Characteristics		Pro
5	Process optimization	Process optimization	OB SF	Orga Effort	Pro
5	OB process not seen as relevant enough	Prioritization	OB SAP	Orga Effort	Contra
5	Customization and adaption of the system to accommodate the requirements	Adaption	OB SF		Contra
5	Not comfortable with adapting process, do not like change	Mindset	Characteristics		Contra
5	No economic barriers	Barriers	OB SF		Pro
5	Same base but improvements - To add additional requirements or steps of the process.	Same base + developments	Future		Pro
5	New product released too soon with lots of gaps and limitations.	Timing + preparation	OB SF	Future	Contra
6	All set at day one, ready to work and being productive	Goal	OB SF	OB SAP	Pro
6	Misconception of ob process limited to activities before, in the moment and shortly after arriving to the company, Start even before recruitment process – position posted (with requirements) by manager	Misconception	OB SF	OB SAP	Contra
6	Complex application process, do not request lots of personal information, Candidate feels put off	Recruitment	OB SAP	OB SF	Contra
6	Candidate becomes so called onboarder with acceptance of offer letter – a person that is no longer a candidate, not yet a full member of the company	Onboarder	OB SAP		Pro

6	Automatic mails sent to onboarder to log in SAP system to provide information - Variations within customers in amount of required information	Automatic mails	OB SF	OB SAP	Pro
6	Most info is filled out, as pre-requested online, theoretically shows up ready	Prior start	OB SF	OB SAP	Pro
6	Acceptance of offer, Candidate moved from recruitment to onboarding (automatic mails + collection of personal data)	Process	OB SAP	OB SF	Pro
6	Access of info about company, benefits	Prior start	OB SAP	OB SF	Pro
6	Guides through office, Introduces relevant coworkers (for specific issues, travel/expense management, IT) Other teams, rooms, open spaces, bathrooms, canteen	Buddy assignment	OB SAP	Orga Effort	Pro
6	Dress code Not necessary to come in suit and tie at SAP Portugal, Jeans and Shirt	Prior start	Future	OB SF	Pro
6	Insert crucial data – first, second, middle name, date of birth, emergency contacts, tax number, see ID, bank details	Prior start	OB SF	OB SAP	Pro
6	Comply with legal regulations	Legal	OB SAP	OB SF	Pro
6	Local benefits according to your birthday – vacation days	Tax and governmental regulations	OB SAP	OB SF	Pro
6	Attention false information provided	Surveillance system	OB SF		Contra
6	Impact in countries that have quotas (female, ethnicity, disabilities etc.), France/Italy quota of disability in public sector	ID card	OB SAP	OB SF	Contra
6	Attention to equality (gender), IT male dominated field, back in time, Message of diversity and inclusion	Extraction of all information	OB SF		Pro
6	Management generates reports	Reporting	OB SF	OB SAP	Pro
6	Referral – has lowest cost of hiring a new employee (someone you know)	Referral lower risk	OB SAP	Orga Effort	Pro
6	Likelihood of the person to leave in the first months is XX%	Impact unsuccessful ob	OB SAP	Orga Effort	Contra
6	Cost of Knowledge,	Impact unsuccessful ob	OB SAP	Orga Effort	Contra
6	Material loss	Impact unsuccessful ob	OB SAP	Orga Effort	Contra
6	Cost of opportunity as hired somebody else, recruitment process all over again	Impact unsuccessful ob	OB SAP	Orga Effort	Contra
6	Buddy makes new hire feel at home	Buddy assignment	OB SAP	Orga Effort	Pro
6	SF allows manager to check if phone, laptop, desk are available to onboarder	Check up	OB SF		Pro
6	Tick every box on list, To ensure everything needed is available	Track process	OB SF		Pro

6	Pulse (how feel) meeting at end of week – requested via SF	Pulse	OB SF	OB SAP	Pro
6	Align expectations	Alignment	Orga Effort		Contra
6	In my team some buddies are not called by their name, but as buddy, buddy has no KPIs	Social aspect	Orga Effort	OB SAP	Pro
6	Complex and aggressive configuration of tool for this customer - Salary of spouse Carefulness with mandatory questions – first impressions	First impression	OB SF	Orga Effort	Contra
6	If new hire did not finish technical aspect, technically, not considered to be hired in the system.	Technical hustle	OB SAP	Orga Effort	Contra
6	Usefulness of automated mechanism + compliance purposes	Useful	PU	OB SF	Pro
6	Managing resources	Consolidation	PU	OB SF	Pro
6	Feature Payroll integration	Feature	OB SF		Pro
6	Leave request	Feature	OB SF		Pro
6	Learning journey	Feature	OB SF		Pro
6	Goals lined up for the first year	Goals	OB SF	Orga Effort	Pro
6	Old and new version of SF, Better integration in system	Integration	OB SF	OB SAP	Pro
6	Direct accessibility/display of data	Benefits	PU	OB SF	Pro
6	Reduced paperwork	Benefits	PU	OB SF	Pro
6	Reduced operative HR tasks	Benefits	PU	OB SF	Pro
6	Less printed form + dispatch (environmentally friendly + sustainable)	Benefits	PU	OB SF	Pro
6	Option to print overview of all entered info about hire	Feature	PU	OB SF	Pro
6	SF Points of improvement on social side	Improvements	OB SF	Orga Effort	Contra
6	Clear and easy, Simple to use on end user perspective	UX	OB SF	PEOU	Pro
6	1. Automated mail, 2. First log into system, 3. Click square, next, next, next (fill data), 4. Finish (digital signature)	Process	OB SF	PEOU	Pro
6	Digital signature – draw name with mouse, Of non-disclosure agreements	Ease of process	PEOU	OB SF	Pro
6	Nowadays – used to deal with technology, Tablets, phones, computers. Important that ob system is available on all devices that are being used	Mobility	PU	OB SF	Pro
6	Look and feel	UX	AU	OB SF	Pro
6	Visually appealing	UX	PEOU	OB SF	Pro
6	Major tech company can not lack in slappy onboarding design, Feeling to be put off	Keep expectations up	PEOU	OB SF	Contra
6	Any person is naturally able to use SF	Anybody	Characteristics	PEOU	Pro
6	Outgoing	Personalities	Characteristics	Behavior	Pro
6	Not reserved	Personalities	Characteristics	Behavior	Contra

6	Certain degree of knowledge in handling technology, specifically computer	Personalities	Characteristics	Behavior	Contra
6	Can be difficult as nowadays lots via apps, No proficiency with operating system	Experience	Characteristics	PEOU	Contra
6	Cases of illiteracy (tech and dyslexia), Make system accessible on lowest degree of literacy, Simplification of system to maximum	Illiteracy	Characteristics	PEOU	Contra
6	Attention to sensibilities, Do not communicate picture that people are not capable of doing things themselves, Ability to follow instructions	Sensibility	Characteristics	PEOU	Contra
6	File upload, Unlimited, not single file, e.g. candidates with PhD have many certificates, No matter which level literacy, Issues also occur for all	Design	PEOU	Characteristics	Contra
6	Only if customer buy and use product can build reputation	Ensure usability	PU	Behavior	Pro
6	HR and new hire	Beneficiaries	PU	AU	Pro
6	Automation and optimization of HR's (manual) tasks, Low profitability of work	Profitability of work	OB SF	PU	Pro
6	Tool allows automated transfer of information to other systems	Automation	OB SF	PU	Pro
6	Paperwork, Write in capital letters(probabilities of errors (typos) low) Bad handwriting, Umlaute adapted to specific country, leads to Wrong set up of e-mail account, Manually: Copy + paste errors	Error elimination	PEOU	OB SAP	Pro
6	Sitting down at home in pajamas	Comfort	PU	Characteristics	Pro
6	Budget adapting organization, Standard process is the leading practices	Budget	OB SF	Orga Effort	Contra
6	Customer agreed to leading practices, kept own process' needs to minimum	Readiness to adapt processes	OB SF	Orga Effort	Contra
6	Standard (common) vs complex (individual) process, National vs multinational operating company	Impact on duration of implementation time	OB SF	Orga Effort	Contra
6	High request of private information due to European regulations (here public services)	Bureaucracy	OB SF	Orga Effort	Contra
6	Customization too difficult; Seen as barrier for consultants, Time, Budget, Complexity, Scope	Customization	OB SF	Orga Effort	Contra
6	Mix of IT and HR, Input of both sides to gain maximum success, Venn diagrams; IT and HR circles do not overlap. Are on the complete other side of the universe, Together Assessment + Agreement	Mix IT HR for max success	OB SF	Orga Effort	Pro/Con
6	Same code, Same data, Same structure, Ease	Integration in master system	PEOU	OB SF	Pro

6	Development of social aspect	Point of action	Future	Orga Effort	Pro
6	SAP tries to sell a whole HR process solution, not just modules	Full package	Future	OB SF	Pro
6	SF implementation projects' duration, 3, 6, 9, 12 up to 5 years	Duration	Future	OB SF	Contra