CONSTRUCTING CONTINUITY FOR VIRTUAL WORK AND NEW EMPLOYEE ONBOARDING – CASE SMARTLY.IO CULTURE HANDBOOK

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Abstract

This master's thesis focuses on the process of creating virtual culture handbook for case company Smartly.io to support onboarding of new employees. In the context of virtual organizations, there are several different organizational boundaries affecting work of virtual teams. Corporate culture can be one of these organizational boundaries. To enable efficient virtual work to happen globally, there needs to be continuity created for this organizational culture boundary. This is especially important in the context of new employee socialization where different supporting activities play a crucial role to build the needed continuity for the boundary. These socialization activities during onboarding should be supported by both face-to-face and virtual ways, which adds the complexity even more.

This study uses Action Design Research method to examine the case in real-life context and to participate practitioners and end users from the company. It analyses in great detail the way the culture handbook was created to a form of digital artefact. It then uses this artefact to mitigate discontinuities on culture boundary arising during the process of new employee onboarding in organization with high degree of virtuality.

Findings suggest that by creating explicit documentation about culture it is possible to support new employee onboarding and create continuities for virtual work in scalable way. Managerial contributions will shed light on ways how managers can mitigate the risks of discontinuities arising from cultural aspects through the creation of culture documentation and efficient propagation across the firm.

Keywords corporate culture, boundaries, virtual work, continuities, discontinuities

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Tiivistelmä

Tämä maisteritutkinnon tutkielma keskittyy prosessiin, jolla luotiin virtuaalinen kulttuurikäsikirja Smartly.io -yrityksen käyttöön tukemaan uusien työntekijöiden perehdyttämistä. Virtuaaliorganisaatioissa on useita eri rajapintoja, jotka vaikuttavat virtuaalisten tiimien työskentelyyn. Yksi näistä organisaatioiden rajapinnoista voi olla yrityksen kulttuuri. Jotta yritykset pystyvät mahdollistamaan tehokkaan virtuaalisen työskentelyn, kulttuurin rajapinnalle täytyy rakentaa jatkuvuutta. Se on erityisen tärkeää, kun kyseessä ovat yrityksen uudet työntekijät, jotka tarvitsevat erilaisia sosialisointiaktiviteetteja osana perehdytystään.

Tämä tutkielma käyttää suunnittelutoimintatutkimus (*Action Design Research*) -menetelmää, jonka avulla on mahdollista tutkia organisaatioita tosielämän kontekstissa. Tutkimukseen osallistettiin myös monipuolisesti erilaisia osaajia organisaation sisältä. Tutkielmassa analysoidaan tarkasti, miten kulttuurikäsikirja luotiin digitaaliseen muotoon. Tätä digitaalista tuotosta käytetään epäjatkuvuuksien minimisointiin kulttuurin rajapinnalla uusien työntekijöiden perehdytyksen aikana.

Tulokset ehdottavat, että on hyödyllistä luoda yksityiskohtainen dokumentaatio yrityksen kulttuurista. Tämä dokumentaatio tukee uusien työntekijöiden perehdyttämistä ja luo jatkuvuutta virtuaaliseen työskentelyyn skaalautuvasti. Johdon päätöksenteon tueksi löydökset osoittavat, että johto voi minimoida epäjatkuvuuden riskiä luomalla dokumentaatiota kulttuurista ja levittämällä tätä tehokkaasti yrityksen sisällä.

Avainsanat yrityskulttuuri, organisaation rajapinnat, jatkuvuus, epäjatkuvuus, virtuaalinen työ

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1 Introduction

1.1 Background and motivation

Virtual work is constantly more common for companies globally and it has given organizational research a new focus to find the most effective ways to work and operate. When measuring virtuality there are several researches where it has been found to be beneficial to analyse virtuality through different boundaries in organizations. The area of organizational research is highly contextual and the concepts of boundaries helps to analyze different contextual settings in different organizations and for researchers it has been proven to be a useful tool to measure virtual organizations in practice (Watson-Manheim et al., 2012). These contextual settings can include for example geographic location but there are also several other factors that are examined and evaluated, such as national and organizational cultures (Orlikowski, 2002). There have been also new research methods presented, such as Action Design Research (ADR) that enables research in real-life inspired situations and organizational context (Sein et al., 2011) which gives researchers new ways to measure and analyze organizations.

The case company for this research, Smartly.io, has been growing with a fast pace during its first four years and it has expanded its operations already for nine different offices globally. The degree of virtuality is constantly increasing in the company and it can be seen in the collaboration and communication of individuals and teams. There are new offices opened around the world and constantly more people working locally in different countries and cities. The organization is divided into different teams and these teams can also be formed regardless of geographic boundaries. In addition, employees have high flexibility to work where they want and when they want which has increased virtuality even with people that are working in a same geographic location.

To support this expansion and growth the company culture has been in the core of the company's ways to act and operate. The company leadership team believes that culture has been the cornerstone for the success in the past and it is believed that it will also be a critical success factor for the company in the future. Because of this, it is needed that there are constant efforts and attention for the culture, communications related to it and development of it. This is why this case focuses on the culture as organizational boundary at Smartly.io and the objective is to construct continuity for this boundary.

1.2 Objectives and scope

The goal of the research is to create a virtual culture handbook that can be used especially in the new employee onboarding to create continuity for the organizational culture boundary. The company has already carefully thought, nurtured and developed company culture in the past and iterated version 2.0 of the culture code that explains the culture in more detail. The challenge is however to have it in right amount of detail and with concrete and practical examples and stories supporting the culture code taglines. The culture also needs to be captured in a format that would be scalable to use as part of the new employee onboarding and especially through virtual communications.

The objective for the research is to be able to collect and capture all the existing knowledge and information about the company culture. This is done by several discussions, interviews and workshops with current Smartly.io employees and then transferring this information into easily readable and visual format that is easy to understand and adapt to. To support the documentation of the culture, different stories and quotes are also collected to have variety in different ways to explain the company culture with examples and from different perspectives. This is seen to help to avoid different misunderstanding and nuance differences that can create discontinuity in the boundary. In addition to the current company employees also the ones that are starting at Smartly.io during the project are included for the research. The final artefact, the virtual culture handbook, is created together with the whole company. Employees are asked for comments and feedback throughout the project to create documentation that is reflecting the global culture and that is beneficial for the end-users in practice.

The scope of this research and impact of its outcomes is tremendous for Smartly.io. The company is growing with increasing pace and for the past year there have been constantly new employees starting every week in the company. The culture handbook will be leveraged for all new employees that will be starting in the company. The handbook will bring continuity for the already existing oral and face-to-face communications about the company culture and it supports the culture propagation especially for the new employees. In addition, the handbook works also as an internal tool for the current employees in the company and it helps communications about the culture. With this documentation, it is also possible to create companywide continuity to discuss about the culture and guide employees' work and actions.

1.3 Structure of the thesis

This research paper presents a case study about Smartly.io that leverages the Action Design Research (ADR) method in making practical, real life situation inspired empirical research where the created outcome is a virtual culture handbook that will be taken in use throughout the company and its employees. The thesis starts with literature review that focuses on researching virtual work with the focus on virtual organizations and virtual teams. It is followed by literature review of organizational boundaries in virtual work and different continuities and discontinuities that can exist in these boundaries. Lastly, the literature review focuses on culture as organizational boundary and analyses its importance for new employee onboarding.

After the literature review, the chosen method for the research is presented. In addition, the choice of that specific research method is explained in more detail. Different concrete action steps related to the project execution and schedule are presented and discussed. Also, the method suitability and trustworthiness of the study is evaluated.

The methods part of the study is followed by the empirical part which consists of the company background introduction and the initial problem formulation consisting of the analysis of the increased virtualness in the company, current culture documentation and ne employee onboarding process. This is followed by expected issues related to the research. These are followed by four steps used in the ADR method: 1) Problem formulation, 2) Building, intervention and evaluation, 3) Reflection and Learning and 4) Formalization of learning. In the end, a summary of the study is presented. That is followed by the analysis of the limitations of the research and suggestions for future research focus and areas. Lastly, appendixes for the research are presented with interview questions and the final version of the culture handbook.

2   Literature review

This literature review focuses on examining the existing literature about virtual work that happens in virtual organizations and virtual teams. In addition, the literature review focuses on examining different organizational boundaries in virtual work. This is followed by an analysis of the continuities and discontinuities within these boundaries and their effects for the virtual team. Lastly, the literature review focuses on culture as a boundary in virtual organizations. It ends with an analysis of the importance of the culture boundary in the new employee onboarding that is the focus area for the following case study part. Lastly, the expectations for the empirical part are presented.

2.1   Virtual work

Virtual work has become increasingly common globally and according to Reaney (2012) "about one in five workers around the globe telecommute frequently and nearly 10% work from home every day". The reasons explaining this are the advances of the technology that is used to support virtual work and the effects of globalization (Watson et al., 2012). With the advances in technology it is no longer required that employees of an organization need to work physically in the same location which also helps the virtual work to happen in practice. For the organizations, big drivers for the adoption of virtual work have been the potential for improvements in the cost effectiveness and productivity (Asatiani & Penttinen, 2017). Virtual work also enables organizations to, for example, organize meetings without needing to pay for travel and accommodation expenses to get people to same place physically. The popularity of virtual organizations can be seen especially in industries that employ people who do knowledge work and information processing. It can be seen that the number of employees in these industries is also growing constantly and rapidly and that virtual work is adapted for more users in the organizations (Johns and Gratton, 2013).

A virtual organization can be seen as a network of people inside one organizations that can work for example from geographically different locations and where the exchange of information can happen in ways that minimize travelling (Moller, 1997). In the literature, it has been described that virtual organization often also refers to a goal-oriented activity and that there is a purpose behind whether organizations have adopted virtual work. Virtual organizations are also described as way to manage, organize and structure work activities (Mowshowitz, 1997).

Important research area in virtual organizations is the meaning and potential of the virtual teams and often these organizations that are using virtual teams sees teams as a primary unit of performance (Bergiel et al., 2008). Lipnack and Stamps (1999) describes virtual teams as "teams with a common purpose that use technology to cross time zones, distance, and the boundaries of organizations". Virtual teams are often seen as a smart and reasonable way to organize work and responsibilities within an organization and that also provides cost-efficiency and flexibility for organizations to operate (Lipnack and Stamps, 1999). Virtual teams are even seen as an ordinary way to grow and create global reach to address the needs of the company (Workman, 2005). It has been estimated that already 66% of global companies are utilizing virtual teams in their organizations (Society for Human Resource Management, 2012). It is also increasingly common that an organization forms teams instead of giving all the responsibility to individuals (Cohen & Bailey, 1997). One opportunity that virtual working creates is that organizations are able to form teams consisting of the most experienced members without, for example, geographic locations limiting the building of a team and member selection for it (Griffith and Neale 2001). This can mean that, for example, the most skilled doctors in a specified narrow medical area can form a virtual team to solve a challenge or analyze results. With virtual work opportunities, the suitable members could be searched for worldwide, and even from other organizations if needed, and they create new ways to work and operate towards the chosen objective.

The shift in organizations away from using only face-to-face meetings and communications to be able to have discussion and do decision making has been strong (Baltes et al., 2002). In virtual work, people communicate purely or partly electronically with others and the virtual work relies on information and communication technologies (ICTs) to replace communication that happens face-to-face (Mark, 2001). The use of ICT in virtual work is supporting teams to exchange, transfer and share information and knowledge by different computer-mediated solutions (Zakaria et al., 2004). To support this shift into more technology-mediated communication, organizations are investing to establish and implement different kinds of technology that supports ways of virtual communication. Examples of these can be, for example, video conference systems or internal chat tools (Perry, 1992). Video conferencing systems, make it possible to, for example, include several people from different locations into a meeting to solve challenges together, but require the right hardware and software. The communications in a virtual working environment can still be divided into many parts and analysed based on the use of different technologies and the amount of verbal interaction. In computer-mediated

communication the amount of verbal communication can vary a lot. For example, chat based communication, such as email and other text-based communication, can be done without any verbal communication. Video conferencing enables virtual computer-mediated communication and the communications can be done thoroughly verbally (Baltes et al., 2002).

Measuring virtuality is a huge challenge and the term still has quite many meanings and definitions and can be used in different ways in the existing literature. This makes the research of the topic and direct implications difficult, and in practice makes it challenging to decide budgets and create best practices to support the virtual working in the best possible ways (Chudoba et al., 2005). The biggest challenge related to explaining the term and its use is that there is no clear and universal understanding of how a virtual team can be defined and what amount of virtuality is needed to call a team or entity a virtual one. One area of consensus is that a defining factor is the absence of face-to-face communication (Griffith et al., 2003). However, it has been agreed that only a few organizations are purely virtual or purely using only face-to-face communications (Watson-Manheim et al., 2012). In addition, it has been agreed that virtual working is not limited to doing work from a specific place but rather it has been explained by working for example on the road, from another office or at home (Davenport & Pearlson, 1998). It is even possible that in virtual teams some team members are actually never meeting each other face-to-face (Orlikowski, 2002).

The virtualness of an organization or a team has been a topic that has been discussed a lot in the literature. It is not enough to look at an organization's or team's virtuality only based on face-to-face communication or pure virtuality, there are several other factors also to consider and the virtuality can vary in different organizations. In the literature, there are different categorization of virtuality to help to research and understand the topic. In one model, virtuality can be divided to for example to pure virtual, hybrid or pure face-to-face to explain the differences more concretely (Fiol et al., 2005). Another example is that when looking at virtual teams, they can be analyzed based on two dimensions that describe their virtualness: time spent together and the level of technology that they use to communicate (Griffith and Neale 2001).

What comes to the advantages and disadvantages of virtual work, there are several different directions to analyse the topic. For organizations, the complexity comes from taking into account several different factors that can affect to the advantages or disadvantages of virtual work, for example management and the used communications. It

has been argued that there are several different elements that make the virtual working complex and can damage the work and results. These elements can be, for example, shortcomings in the used technology that cause the ways of working to damage communications. In addition, another challenge is that the task suitability for virtual work and the lack of human contact and it consequences in the long-term (Bergiel et al., 2008). On the other hand, virtual work enables organizations to reduce costs and it can even open new channels of collaboration and trust to evolve (Lipnack and Stamps, 2008). One of the main advantages of virtual work is the opportunity to work real-time with people all around the world saving the time and money, and crossing other barriers that would be needed to bring these people together otherwise (Bergiel et al., 2008).

What comes to the future of virtual organizations, evidence suggests that evolvement in the ways of working can lead to an increasing amount of virtual organizations that might not even have a centralized geographic location (Asatiani & Penttinen, 2017). In addition to virtual teams in companies and organizations, there are also constantly more ad hoc virtual teams. These can be formed for a specific cause to solve a certain challenge by bringing all of the experts of that topic together to discuss (Nardi et al., 2002). Taking into consideration the differences and uniqueness of virtual organizations and teams on a global level, one of the key challenges related to management in contemporary organizations is the coordination and management of virtual work (Wiesenfeld et al., 2001). Cohen and Mankin (1999) suggest that organizations that are leveraging virtual work and virtual teams should research deeper the different factors that are affecting the collaboration in virtual work and are they supportive enough in the organizational context. These factors can be for example different structures, policies, culture and systems that are affecting the virtual work in each organization.

2.2 Organizational boundaries

Based on Watson et al. (2012) "Boundaries are a central notion in the social sciences and are important for understanding relationships within and between systems". There is not only one specific boundary that is used in the research, and boundaries can vary based on different environments. One way to explain their meaning is to look at boundaries as touchpoints where there is a difference or a gap between at least two people, such as time zone difference or difference in the national cultures that these people are representing (Watson-Manheim et al., 2012). In the literature, there are also different combinations and models of boundaries used and it is really challenging to conceptualize organizational

boundaries concretely (Laumann, Marsden, & Prensky, 1983). Boundaries can consist of one or various different things and they explain the organization and its unique context and variables for further investigations (Watson et al., 2012).

In the research by Chudoba et al. (2005) researchers examined Intel corporation through six different organizational boundaries. The boundaries that they used in this research were: geography, time zone, culture, work practices, organization, and technology. The collection of these six attributes was named a virtuality index and it helped to examine the virtuality of Intel in these six areas. These virtuality index boundaries are also seen as a common source for discontinuities within the boundaries. Besides measuring virtuality with these factors, they were used to measure effects on team performance. Based on Yan and Louis (1999) boundaries should be defined in an abstract way in the literature since they are seen to have multiple purposes and to cross each other in different organizational contexts. In their research, they present boundaries through four dimensions: perimeter, interface, demarcation and frontier. Compared to the previously presented method, Yan and Louis (1999) define boundaries as metaphors that describe the boundaries' functions in the organizations. These metaphors enable multiple purpose serving and a diverse set of activities are included for each term.

It is also possible to categorize boundaries through their degree of visibility and divide them into three parts based on these categorizations (Watson-Manheim et al., 2012). The first category in this model is physical boundaries that can mean boundaries such as geography that are visibly and tangibly possible to see and recognize. The second category is administrative boundaries which consist of non-material legitimacy recognized. They are things such laws and organizational policies that are agreed upon in a specified group. The third category in this model is categorical boundaries which means boundaries that are distinctions made by individuals. These might not be understood or even visible to people outside of the boundary. In practice, this can mean for example a shared background and the memories of two people that have played in the same football team previously. This shared background that affects for the current moment is something that cannot truly be understood by others (Watson-Manheim et al., 2012).

Boundaries have an important status in bringing order and simplification to the organizational environment since they separate one situation from another (Ashforth et al., 2000). They also present for organizations to potentially differentiate themselves and gain competitive advantages, while at the same time they represent the barriers and challenges to organizations that might cause discontinuities. Boundaries are needed to be able to

examine different organizational situations and context and they can vary between different organizations and teams. This means that boundaries can be seen as dynamic phenomenon and they can have completely different effects and results in even in two environments that are mostly similar. The effects of boundaries are not universal and they can be seen as very different to even by each individual, team and organization. In addition, the same boundary can have different results and context over time since it is highly reflective of the environment around it. These effects can vary based on, for example, the environment or the organization's industry (Watson-Manheim et al., 2012). Work practices as a boundary can have even dramatically different effects on organizations and, in some cases, these can be seen as positive and in some cases as negative to the organizations and teams (Asatiani & Penttinen, 2017). It has been suggested by researchers that through organizational boundary effects and boundaries it is possible to measure virtuality in different organizations and teams. Through boundary research it can be analyzed how people in an organization are collaborating across, for example, the boundaries of nationality and time (Orlikowski, 2002).

Boundaries affect every virtual team and they cross some boundaries such as location and time (Nemiro et al., 2008). It is crucial to understand how different boundaries are shaping virtual work especially because virtual work can be so different in teams and organizations (Orlikowski, 2002). For example, it is useful to understand the difference between engineering and HR ways of communicating and to, for example, use the right terminology. For individuals, it can be beneficial to understand and recognize what is inside and outside different boundaries. This can help to, for example, find areas to focus on, know what to prioritize, find out what are the needed resources and to help decision making in general (Lamont & Molnar, 2002). One example is that when knowing how a geographic boarder is limiting face-to-face communications, it is possible to think of different alternatives ways to communicate between different people, teams and the organizations. To be able to collaborate and work efficiently, virtual teams might need to cross several different boundaries and take actions at the boundaries that, for example, enable efficient information sharing and minimise misunderstandings (Nemiro et al., 2008).

To be able to work efficiently, it is important to understand and organize balance especially between integration and differentiation of organizational systems (Schneider, 1987). Management of these complex systems and various different factors that are forming boundaries still remains a huge challenge for leadership. The process of managing

boundaries can include steps such as merge, destroy, reform, close, open, cross, maintain, change and recognize. To be able to manage these steps effectively, leadership must acknowledge which actions are required at the boundaries and recognize which boundaries exist in the specific context and situation (Nemiro et al., 2008). Due to these challenges, research about boundaries has become increasingly more common. Another reason research about boundaries is becoming increasingly more common, is the shift away from a dichotomous perspective that saw virtuality as a total lack of face-to-face interaction and communications. Instead the focus has shifted to a more nuanced hybrid perspective that sees much more variety in the ways to look at, analyze and measure virtuality (Chudoba et al.,2005).

Virtualization increases the number of boundaries and complexity in organizations and teams (Breu and Hemingway, 2004). However, it is still possible that boundaries may not be always problematic and that even some positive effects can result from them (Chudoba et al.,2005). One example of this is presented in the research by Watson-Manheim et al. (2012), which looks at the boundary of geographic borders, that are thought to cause disruption and results in higher logistics costs. Their research found that the context of boundaries matters, and that in the European Union, for example, legislation of the free movement of goods actually removed the negative effects of geographic borders. Still it is essential to notice that to minimize the negative effects of boundaries, virtual teams need management and support, including for example training and equipment. It is important to make sure that teams are supported enough and the creation of silos can be minimized to prevent discontinuities from forming (Nemiro et al., 2008).

An important area of research in boundaries is to examine the different continuities and discontinuities in different boundaries such as culture or geographic location. These can be further investigated with organizational discontinuity theory, which suggests that discontinuities and continuities exists at these boundaries (Watson-Manheim et al., 2002). By examining the discontinuities in and changes in expected conditions, it can be recognized, for example, how virtual a specific situation or setting actually is (Chudoba et al.,2005). On an organizational level, boundaries can be seen with the same characteristics across different situations and they can be analysed to be somewhat similar even in different organizations. Continuities and discontinuities, instead, can be seen as situation- and context dependent, and provide a way to analyse organizations in their own contexts and seeing how they differ from each other (Watson et al., 2012).

2.3 Continuities & Discontinuities

Even though it is possible that there are some similar types of boundaries in organizations, complexity is added when they are examined through discontinuities and continuities. The continuity and discontinuity approach is much more individual, and it does not assume that people in the same team would react to boundaries in the same ways. These discontinuities and continuities are a lot more situation- and context dependent, which makes it also possible to examine various types of real life cases in organizational situations. Research on continuities and discontinuities has been growing since the 1990s and it is plays an important part in organizational research and the examination of virtual organizations (Watson-Manheim et al., 2012).

Continuities and discontinuities are used to describe the contextual setting where individuals in an organization are operating virtually. They consist of both, concrete practices in action and the different perceptions of team members (Watson-Manheim et al., 2012). Continuities and discontinuities can be analyzed in different organizational boundaries such as culture, time, location, organization, work practices, geography and technology. According to organizational discontinuity theory (Crowston et al., 2015; Watson-Manheim et al., 2012) these discontinuities in boundaries can be seen as negative effects perceived by individuals. Continuities instead can be seen as actions to solve and prevent the perceived discontinuities and create consistency.

2.3.1 Continuities

Continuities can be seen as new structures that are created to prevent or address organizational discontinuities. On the other hand, continuities can be seen to provide the needed stability to be able to deal with the differences and challenges related to discontinuities. Constructing or finding a continuity can result in creating coherency for different situations. Continuities can also be seen as mandatory to be able to work successfully in a virtual environment (Watson-Manheim et al., 2012).

Continuities mean different factors that are affecting and guiding employees' behavior in an organizational context. These can be either implicit and unrecognized, or then the employee might be aware of them consciously and acting according to them. The different continuities can be concretely, for example, mutual understanding of a task, similar types of expectations and shared motivation (Watson-Manheim et al., 2002).

There are several different factors to take in to consideration when an organization is deciding to construct continuity for boundaries. Based on Asatiani and Penttinen (2017), virtual organizations need to consider the balance between flexible and rigid approaches affecting to the boundaries. The several different factors affecting the creation of continuity for boundaries such as different technologies, workflow management, organizational hierarchy and structure, and communication management. Another essential topic to consider is whether the continuity is created to solve an emerged discontinuity that has been noticed by individuals in the organization, or to prevent discontinuities from happening potentially in the future within a specific boundary in the organization. This type of analysis helps management to create continuity for boundaries in different organizational situations (Watson-Manheim et al., 2012).

Continuities can be seen to bring coherency and clarity to said problems, and to help individuals and teams to work efficiently together (Watson-Manheim et al., 2012). Creating continuity in the boundary of time and location can be, for example, bringing clarity to working hours in different geographic locations. In concrete terms, this can happen by implementing a practice that every employee needs to follow and, for example, limiting the possibilities to work a certain amount remotely. On the other hand, continuity can be created in the boundary of organizational culture to align the ways of working to prevent discontinuities and conflicts happening due to a gap between two people in this specific boundary.

2.3.2 Discontinuities

Discontinuities can be described as lack of coherence and continuity in a specific aspect of work such as a conflict that has evolved between different employees within an organization due to different understanding of a culture. They can evolve and exist at the organizational boundaries, and they can be perceived by individuals that noticed incoherency in communications or in the exchange of information for example. Discontinuities can exist in various different settings such as a situation where a specific task is accomplished or in a discussion between manager and employee that are located in different geographic places (Watson-Manheim et al., 2012)

Based on Watson et al. (2012) discontinuities can be divided into two different categories that are cross-sectional and temporal. Cross-sectional discontinuity is described as an individual's perceived discontinuity in a specific aspect of work. Temporal

discontinuity, instead, is used to describe a gap in logical succession, for example, when an employee is transferred from one team to another.

Discontinuities are highly contextual and they can be easily disturbed even by small changes in organizational setting. For example, if there is one new employee starting in an organization, a specific discontinuity can be created and the work of existing employees and teams can be changed (Watson et al., 2012). To overcome these discontinuities organizations are advised to find and recognize them to be able to make needed actions in creating continuity. These actions can be organizing a face-to-face meeting or creating a practice that clarifies the communication between teams in the organization (Crowston et al., 2015).

To be able to adapt to discontinuities and change behavior it is however needed that people in the boundaries are able to see the discontinuities and disruption and change their acts, attitudes or behavior in the right direction. However, it has been argued that only the boundaries that have discontinuity perceptions by the individuals are problematic ones for organizations. (Watson-Manheim et al., 2012).

2.4 Culture as an organizational boundary

There can be several different organizational boundaries that are affecting an organization and its employees and where discontinuities and continuities can exist. As discussed above, there are also several different categorizations for these boundaries. Based on Organizational Discontinuity Theory (ODT) (Crowston et al., 2015; Watson-Manheim et al., 2012) it is recommended to separate different boundaries in virtual working environments and examine their effects on virtual work separately to create useful practices and ways of working. One of these boundaries can be culture and it can be further examined in a unique organizational context.

Culture can be defined as a set of values, norms and beliefs shared by a specific group, habitually used to separate one group from another, and cultural values define how a person is understanding and reflecting to the environment around (Adler, 1997). Culture can be seen also as a more concrete outcome of different norms, rituals, interactions, experiences and stories. When culture is analyzed as a boundary it can be further investigated in two different areas. First, it can be examined as a boundary that is reflecting an environment and country's value systems such as the differences in individuality between the national cultures between of USA and Japan. Secondly, culture can be examined as an organizational boundary that defines the company's value systems and

ways of working for its employees. This can mean, for example, mutually agreed ways to act and communicate between employees inside the organization (Nemiro et al., 2008). Both of these cultural dimensions are playing different roles for organizations, but are important and have a crucial effect on the organizations. In addition, the importance of these different boundaries is even higher in the context of virtuality (Zakaria et al., 2004).

Culture has been increasingly studied in the context of organizations, and it has become an important research area to be able to measure organizations and understand their behavior and differences in the results (Smircich, 1983, Manetje and Martins, 2009). It has been argued that organizational culture is even one of the key factors for companies' success (Schein 1984). Organizational culture creates a unique and distinctive character to each organization which is why their research results cannot be truly generalized (Brown 1995). Based on Brown (1998), organizational culture is "the pattern of beliefs, values and learned ways of coping with experience that have developed during the course of an organization's history, and which tend to be manifested in its material arrangements and in the behaviours of its members". Since organizations are never formed unintentionally, also organizational cultures are something that forms as a result of conscious actions. It has been argued that especially at the time when an organization is formed, there is a person that takes a leadership role and finds a purpose for the organization to exist. This existence is something that can create a goal for the organization and organizational culture can evolve to represent ways guiding how the leadership sees that those goals can be reached in the unique context of that specific organization and its people (Schein, 1983). Organizational culture has even been referred to be as a similar thing for an organization as personality is to a human, confirming the effect of context even more (Johnson, 1990).

Organizational culture can be supportive and it can help teams to work efficiently and reduce conflict situations between an organization's employees. Culture can even work as a kind of an unspoken language that helps team to work together and understand each other (Nemiro et al., 2008). Especially in virtual organizations and teams, it is important that different teams are able to align their thoughts and ways of working to avoid discontinuity. By aligning these, teams are able to set explicit ways to be able to work together efficiently and with minimal conflicts and misunderstanding (Watson-Manheim et al., 2012). Organizational culture gives resources to individuals in an organization that guide their everyday work, attitudes and actions (Leonardi, 2011). Culture is guiding also behaviour in different ways, for example by defining how decisions are made in teams (Adler, 1997). It can be often see that the way a team is operating reflects the culture of an

organization (Nemiro et al., 2008) and teams can even be referred to as microcosms of the culture (Suzuki, 1997).

Different emotions and behaviours can be changed and transmitted within cultural boundaries in organizations. For example, both happiness and anger are possible to spread in virtual organizations and also through text communications. It has been found that these different feelings and behaviours can spread and, for example, a happy team member can transmit happiness to a colleague (Cheshin et al., 2011). In the context of culture this means that different behaviours can transmit and if, for example, one person has adopted and understood company culture well, it can spread also to new employees even though this communication would be happening virtually. On the other hand, also negative subjects can transfer by the means of virtual communication. This is why it is a challenge to align organizational culture in a way that it would not bring discontinuity for the teams but would work as a strengthening source instead.

Companies working without a clearly identifiable organizational culture might face issues with employees feeling themselves to be more like freelancers than actual employees of the organization (Asatiani & Penttinen, 2017). Conversely, clear cultural practices can result in individuals having feelings of inclusions, membership and identity (Lamont & Molnar, 2002) that create continuity for the internal work. For example, people in different locations that are presenting different national cultures might not have much in common and they might not have met face-to-face. With shared practices, values and beliefs, however, they can be able to feel to be part of the same team, and share ideas and discuss together. These types of member identification can result in many positive effects, such as higher employee motivation, lower in-group conflict, increased group cohesion and greater employee compliance (Kramer 1991).

Culture can work as a stabilizing function for the organization. However, it is extremely challenging for leadership to manage culture as it requires constant effort to maintain it, reflect to changes, make needed developments and propagate it for current and new employees (Schein 1984). Even more complexity is added when the management is happening in a virtual organization, where there can be people located all over the world and the complexity of the boundary crossing is increases. In addition, all of the changes made to the culture will also affect the ways people behave, and managers should be conscious of the changes and possible implications that may result. Since culture is not tangible, it also needs constant attention from managers and their skills to be able to observe and interpret, for example, conflict situations happening in the culture boundary

(Nemiro et al., 2008). To be able to manage the culture and create continuity for the organizational culture boundary, understanding from the management is needed to see its importance and to find effective ways by which it can be maintained and developed. The cultural boundary also needs constant training and support from the organization so that the coherency can be created and maintained, also when current employees might leave the company and new ones join and the team dynamics are affected (Pauleen 2001).

What also adds to the complexity is that both national and organizational culture affect team dynamics and can create discontinuities in the culture boundary. It is highly important for managers to understand these both, to be able to create a global organizational culture and to create an environment for teams to be able share knowledge and collaborate efficiently (Zakaria et al., 2004). Regardless of the multiple areas of consideration, paying attention to constructing continuities and to avoiding discontinuities in the culture boundary is worth the time and effort of managers, since a well working culture boundary can enable effective ways of working, making positive results, solving problems and letting new knowledge to be created (Nemiro et al., 2008).

The different boundaries have varying effects in different contexts which makes generalization of research and learning challenging when researching them. What also adds complexity is that the degree of virtuality varies in different organizations (Schweitzer and Duxbury, 2010) and they should all be examined in their own context to be able to get reliable and detailed results that the companies can use in practice. It is also necessary to take into considerations that boundaries are often affected by other boundaries, and that boundaries overlap with each other and might have various influences on each other and cannot be truly researched independently (Watson-Manheim et al., 2012). So even though it would be highly beneficial to examine the culture boundary in an organization, it is important to acknowledge that the results might be affected by other boundaries as well.

Adding further complexity and challenges is the fact that company culture might not be the same within the whole organization and there can be several different sub-cultures that reflects different variations of the organizational culture. These sub-cultures can evolve, for example, in separate teams or offices (Nemiro et al., 2008). This means that when examining company culture, it should be examined in all locations where there are employees so that the results are trustworthy. When also looking at a specific situation where boundaries are crossed, the situational effects should be considered and analysed to have trustworthy results (Bell and Kozlowski, 2002).

Culture can be seen as one solution to the challenges that an organization might face on their way to achieving their shared vision and set goals. Because of this, it is important that the whole company can understand the culture and act according to it. In addition to old employees acting according to culture, it is equally important that new employees are taught about it and they are able to adapt to it. However, culture needs to be explicitly clarified so that it can serve its purpose for the whole organization. In addition to knowing about the culture it is important that employees see it as correct and valid and that they have motivation and willingness to act according to it (Schein 1984).

Especially for new employees, it might take some time before they are able or even willing to act based on organizational culture, since it might need some changes in the working habits they are used to or the organizational culture might differ from some of their personal values or beliefs (Cable et al., 2013). Because of this, it is important that organizational culture is taught as part of new employee onboarding. If not, new employees might create their own ways of working and acting that can results in discontinuity in the culture boundary that can end up harming group work and personal relationships between group members (Schein 1984). From a leadership point of view, having culture as a part of onboarding is also an important way to set expectations for new employee behavior and ways to work. If the organizational culture is clear, it also helps new employees to feel part of the organization faster (Cable et al., 2013).

Propagating about company culture during new employee onboarding can also be seen as socialization activity. These socialization activities can be actions for an organization to help new employees to adapt part of the organization and to avoid discontinuities during onboarding (Bauer et al., 1998). According to Bauer and Erdogan (2011), organizational socialization can be referred as onboarding process for new employees to become part of the organization. This process can include for example learning specific skills, gaining certain knowledge and adapting shared values and behavior. These socialization activities can work as an efficient way to create continuity for onboarding, which can concretely help organizations, for example, to minimize their turnover rates among new employees (Allen, 2006).

It is important to notice for organizations that these socialization activities are possible to manage and different tactics can be reformed based on desired objectives (Van Maanen and Schein, 1977). Besides gaining advantages for new employee onboarding, socialization activities can also be seen as way for virtual organizations and teams to improve their collaboration. Socialization activities should be constantly developed and

they should participate individuals and teams from the organization. These different activities are recommended to consist of face-to-face and virtual activities to maximize the positive results (Oshri et al., 2007).

To conduct culture boundary research, it is highly important to look at organizations independently to see what would actually work in practise in their unique context and when taking existing and new employees into account. Examining these boundaries and perceived discontinuities and continuities cannot be done without the support of the organizations, since the research area is focusing on relations and perceived situations between the organization's employees. On the other hand, to be able to create generalized results for other organizations to leverage within a specific boundary, several organizations should be examined to see if there are some synergies that can be generalized for a larger class of instances.

Based on the literature review, it is believed that the case study of Smartly.io will have a major impact on the company's success in the future. The hypothesis of the study is that by clarifying and improving the current culture documentation and communications, it is possible to create coherency globally throughout the whole company for the culture as an organizational boundary. With this coherency, it is believed that there is an opportunity to create consistency for group work that will help different virtual teams to work efficiently and making better results. In addition, it is believed that it is possible to avoid possible conflicts and discontinuity from evolving that might harm the group work. The culture for this particular case company is seen to be the strengthening force that can support the success of the company also in the future. Because of this, it is seen important that the culture is captured and documented in a form that helps the company to speak about it and nurture it as part of everyday actions. It is seen that the communication about culture should not be trusted only on virtual communications. To support already existing communications happening virtually and face-to-face, a handbook is seen as efficient and scalable way to support the culture propagation. It is believed to be especially useful for new employees during their onboarding and to work as a concrete socialization activity supporting them to adapt part of the organization.

3 Research method

The initial idea of the research arose based on the researcher's own observations in the company and experiences as a new company employee. The observations and idea of starting the project were discussed with the company's leadership team, which agreed that there was a need to conduct this project.

The project of creating a virtual culture handbook for Smartly.io began in March 2017 and continued until September, when the ready handbook was shared to the whole company and added as part of the company intranet.

3.1 Background for choosing the research method

The goal of the project was to create a virtual culture handbook for Smartly.io that could be used especially in new employee onboarding. There had not been explicit and clear documentation about Smartly.io's company culture that would be practical to use in new employee onboarding in a scalable way. Knowledge about company culture had been transferred mainly in face-to-face communications when a new employee started in the company. In addition, there had already been culture code documentation that explained the main principles of the company culture, but without examples or comprehensive descriptions of each point.

Smartly.io has been growing fast and is nowadays operating as a virtual organization where face-to-face communication has been decreasing and the boundaries of the organization are more complex, creating more opportunities for discontinuities. This means that especially for new employees that start locally in different international offices, there is no longer as much face-to-face interaction with current employees as before when employees were working in only one or two different locations. To support the onboarding of new employees, it was seen that a culture handbook would help to tackle this challenge and create continuity and consistency for virtual work. Creating a culture handbook was also seen to support the existing methods of propagating company culture as part of the new employee onboarding process.

By collecting this kind of culture knowledge into an easily readable and understandable format, the project was seen to bring a huge impact for the company. It was agreed that with this project it is possible to clarify the current culture in more explicit form, highlight its main principles and explain how things are working in practice and from different perspectives. In concrete, these clarified instructions and ways to propagate

them, would be a solution to minimize possible gaps and differences that evolve in the boundaries and might result in discontinuities.

This topic is related to the Information Systems (IS) field and it was crucial to choose a method that is not focused on IT dominant artefacts or processes. Instead, it was important to find a method that focuses on the relations, communications and boundaries between individuals. To be able to conduct the project in an iterative way, it consisted of two bigger parts. First, information needed to be collected from old employees. Then this knowledge needed to be transformed into a form that is easy to understand even if you are new employee and do not have any touchpoints to the company culture, values and ways of working.

Because of these reasons the chosen research method for the empirical part was the Action Design Research (ADR) method that was introduced by Sein, et al. (2011). The Action Design Research method is a combination of Design Research (DR) and Action Research (AR), which focuses on a real-life problematic situation within an organization (Rogerson & Scott, 2014). The ADR method focuses on valuing organization relevance instead of technological rigor, which was a cornerstone of being able to do the research in the case of Smartly.io.

For this research, the ADR method made it was possible to examine real-time series of events and activities in the Smartly.io context and in the organizational culture boundary. With the chosen method, it was also possible to create impactful knowledge to be used in new employee onboarding. In addition, it was feasible to combine observations, information and knowledge from the practitioners and conduct an iterative project. The chosen research method made it was possible that all the company employees were able to be included in the actual research process. It was also possible to include all new employees that started at Smartly.io during the project in the research.

The Action Design Research method requires broad participation of three different groups in the research and it is a collaborative process between researchers, practitioners and end-users (Sein et al., 2011). The research project involved the researcher from the organization. In addition, 20 practitioners participated in the research including five persons from the company's leadership team, three persons from the company's talent team and 12 current company employees representing different locations and teams. One of the talent team members also acted in a major role in writing the actual handbook content to a format that presented the company's communication style and voice. In

addition, the end-user group for this research was chosen to be the rest of the organization and new or starting employees.

3.2 Action Design Research

The chosen research method is relatively new in the Information Systems Science field and it is called Action Design Research. It focuses on examining, evaluating and building design knowledge in an organizational context, which in this research results in creating an artefact, a virtual culture handbook for Smartly.io. The research method can be divided into to two main parts, where the first part is focusing on finding a current problem situation in an organization by intervening and evaluation. In the Smartly.io case this was the agreed need for creating the culture handbook. The second part of this method focuses then on building and evaluating these problem situations that are happening in some encountered situations in an organization (Sein et al., 2011). This research was conducted in two cycles, where the alpha cycle goal was to create an updated version of the company culture code. In the beta cycle, the goal was to create the culture handbook, which included the updated culture code as one part of its content.

The process of Action Design Research can be divided into the four different stages and seven corresponding principles that are presented in Figure 1 below. The first stage is problem formulation, which is followed by the building, intervention and evaluation stage. The third stage is reflection and learning, and the fourth stage is formalization of learning. The empirical research of this case study is conducted based on these stages and principles. The empirical process is documented to follow this structure (Sein et al., 2011).
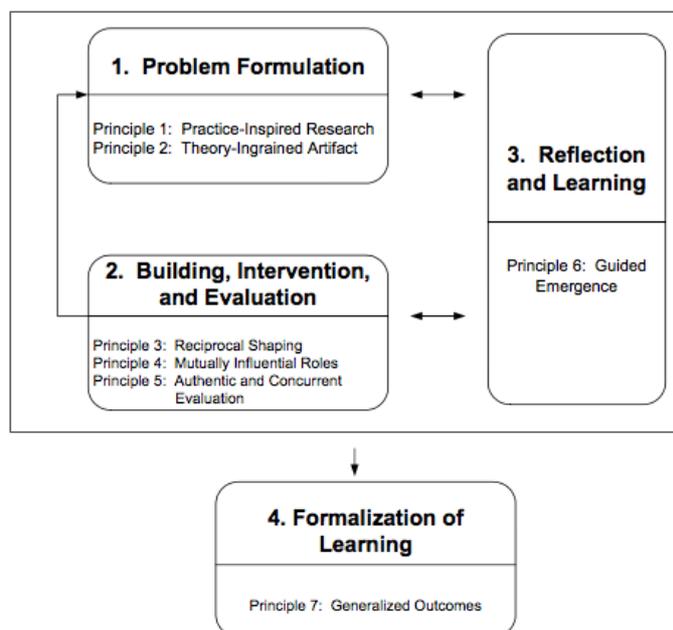
Figure 1. The ADR method: Stages and principles (Sein et al., 2011)

3.2.1   Stage 1: Problem Formulation

The first step in the ADR method is problem formulation, which focuses on defining a problematic situation that is encountered in the organization. In this case, the need to create continuity in the organizational culture boundary and to prevent discontinuities from arising. This created the need and motivation to conduct the research. After finding a research opportunity worth the time and effort, it is suggested to create the initial research questions to support the study (Sein et al., 2011). At this point, the following research questions were formulated: What content is needed to be able to present the Smartly.io culture comprehensively? What is the right format to present Smartly.io's culture documentation? And How should this information and knowledge be captured from the practitioners?

In the ADR problem formulation stage, it is also important to cast the problem not as a one-time issue, but as an instance of a class of problems. In the Smartly.io case this means that there is possibility for discontinuity to arise in all current and future communications happening internally between individuals and teams. Since the company is growing with increasing pace, the timing of the research was urgent, to be able to utilize the ready-made handbook as soon as possible.

In the end of stage one in the ADR method, these tasks are followed by making sure that the researched organization is committed in the long term, and then by defining different roles and responsibilities in the organization so that the research can be started

(Sein et al., 2011). Since the research topic is really important for Smartly.io and it is affecting the whole company and its employees, it was agreed with the company leadership team that the whole organization could be involved in the research process. In addition, the five people from the leadership team, three people from the talent team and 12 chosen practitioners of the company would be using a significant amount of time for the project and it was essential to focus on creating an artefact that is relevant for the end-users. The leadership team was chosen to be highly involved in the project to maximize the support for the researcher and to avoid documentation being done in the voice of the writer or based on the researcher's own observations. Three people from talent team were chosen as practitioners to be able to get perspective from people in roles that are working closely with all company employees. One of these talent team members also wrote the actual final content for the handbook and edited the language so that it represented a Smartly.io way of communicating. The 12 practitioners from the current employees were chosen to present different teams, roles and locations of the company. In addition, they were chosen from employees that have been in the company at least six months and could describe the culture potentially in more detail and with concrete examples and stories.

3.2.2   Stage 2: Building, Intervention and Evaluation

The second stage of the process focuses on building, intervention and evaluation in the organizational context by researchers and practitioners. The first step is discovering the initial knowledge-creation target to guide the direction of the research and cycles related to it (Sein et al., 2011). The end target for this part was to create an artefact for Smartly.io, the culture handbook. It is important that this part of the process and its cycles are iterative, so that changes can be made and the process adapted to make sure that the end artefact is relevant for its users.

In the ADR method, there are two major schemas from which to choose the focus for the research's building, intervention and evaluation stage, called BIE. These two different schemas are IT-Dominant BIE (Figure 2) and Organization-Dominant BIE (Figure 3), and the selection will affect the cycles in the process. It is possible to choose one of these or then customize the BIE form based on the organization's needs (Sein et al., 2011).
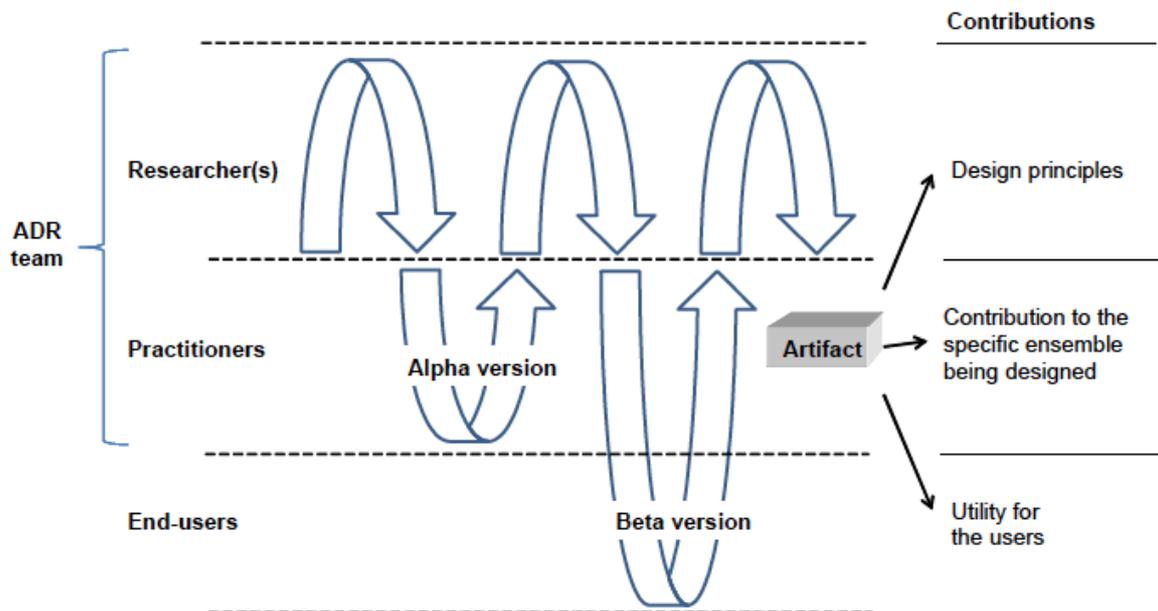
Figure 2. The generic schema for IT-Dominant BIE (Sein et al., 2011).
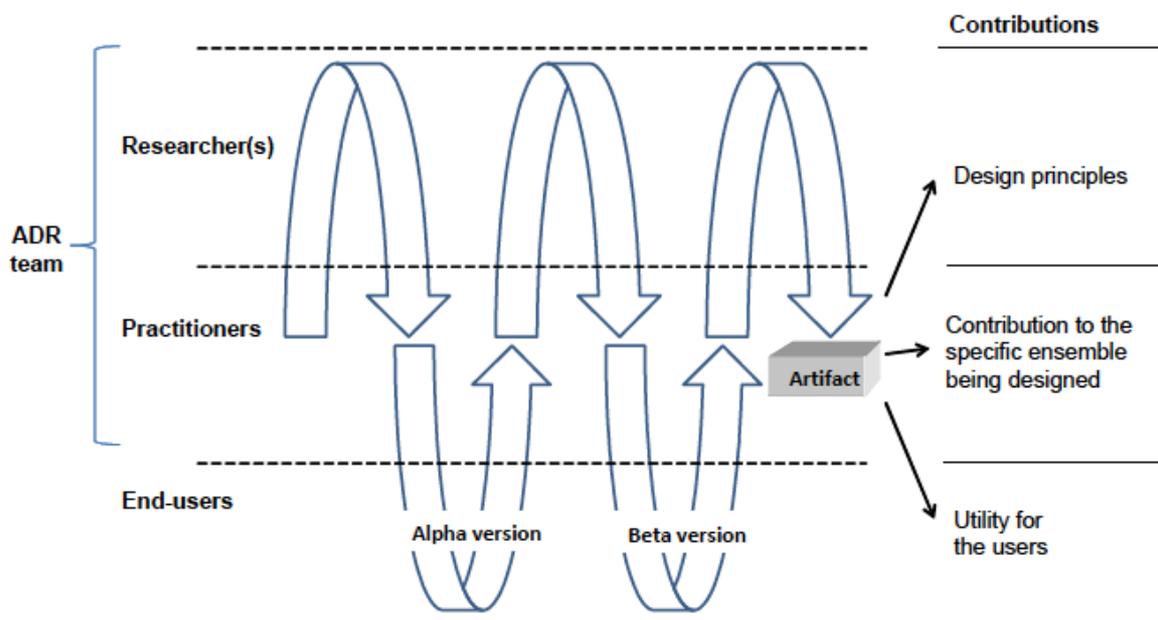
Figure 3. The generic schema for Organization-Dominant BIE (Sein et al., 2011).

For this case study, the Organization-Dominant BIE was an obvious choice since the planned artefact will be focusing more on knowledge creation, and IT does not have a big role in the artefact itself. In addition, the iteration cycles needed at least two touchpoints from end-users and it was clear to choose a method that supports this. Considering the schedule of the project, it was decided that it would include an alpha and beta cycle and no additional cycles would be added so that the project could be finalized on time. However,

it was decided that smaller iterations could be done during the project without including all practitioners or end-users in them. The need for these smaller iteration cycles would be analyzed during the project and possible changes made base on that. The iteration cycles for the Smartly.io case is presented in the Figure 4 below.
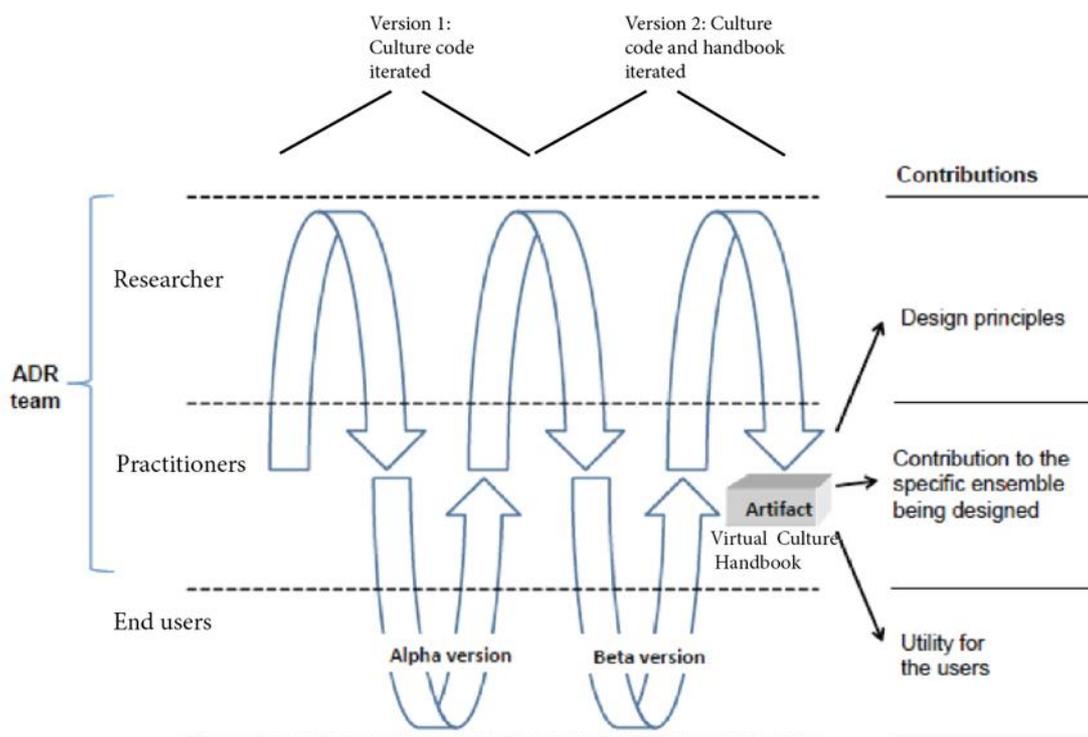
Figure 4: Alpha and beta cycles for creating the artefact for Smartly.io.

The project started in the middle of March and the schedule was to finalize the project by the end of September the latest. The action steps for this six months were planned accordingly and the initial plan was to have the final version ready in the beginning of September. The steps and needed iterations rounds were also adapted and added during the process to make sure the content will be reflecting the culture in concrete. The concrete steps, meetings and iterations for the project are described in Table 1 in chronological order as they appeared during the research.

Month	Steps during the process
March	• Researcher's own observations & experiences and initial problem formulation • Initial discussions with the leadership team • Project kick-off workshop with talent team • Workshop with the leadership team • Tier 1: 1-1 interviews with the practitioners • Tier 2: 1-1 interviews with the practitioners
April	• Analyzing the 1-1 interviews • Writing the first version of the culture code together with talent team member • Workshop meeting with the leadership team to align the first version of the culture code • Three iteration rounds to align the first version to it's final format • Planning the company culture event, Cultur.io • Sharing the first version of culture code virtually for the whole company • Preparing materials about the culture code for the Cultur.io event • Company Cultur.io event: presenting the culture code, discussions and feedback • Analyzing comments and feedback from the event related to the culture code
May	• Editing comments and feedback for the culture code • Workshop with the leadership team to finalize the culture code • Iteration rounds to align the final version of the culture code • Workshop with the leadership team to decide about the rest of the culture handbook content
June	• 1-1 sessions with practitioners to collect content for the topics of the handbook • Writing the topics sections for the culture handbook together with talent team member • Asking comments and feedback from practitioners • Asking feedback and comments from the leadership team
July	• Collecting quotes and stories for the handbook • Iterations rounds with the leadership team to finalize the first handbook draft
August	• Sharing the culture handbook virtually for commenting and feedback for the whole company • Starting the design planning process with the designer • Editing the content based on comment round • Aligning the final content with leadership team
September	• Workshops with the designer and finalizing the design • Ready handbook shared for the whole company

Table 1: Project steps presented in chronological order.

The goal of the alpha cycle was to redefine the Smartly.io culture code based on existing materials, interviews conducted with practitioners, workshops organized with the company talent and leadership teams, and based on the researcher's own observations and experiences. The goal of this part was to gather information and knowledge to be able to explain the culture more comprehensively, and also to see how the existing culture code 2.0 documentation aligned with the current practical understanding and use of it.

The alpha cycle of the research started with the researcher's initial problem formulation based on her own observations and experiences as a new company employee. This was followed by initial discussions with the leadership team to address the need and potential of the research for them. The cycle continued by having a kick-off session with the talent team to align the right steps and order to proceed. In the meeting, the existing culture documentation was gone through and it was agreed that it could be used as background material, but should not be the main source of information since the material had not been written or updated recently, and since it was seen that the company culture had also evolved over time. It was agreed that even more important would be to collect information and practical knowledge from the practitioners and change this into an easily readable and understandable format. It was decided that the best way to proceed was to organize one-on-one interviews with each of the practitioners and decide on next steps to

proceed after seeing potential focus areas. To be able to conduct these interviews in an organized way, the pattern of questions for interviews was decided in the meeting. These one-on-one interview questions formed by the researcher and talent team are listed in Appendix 1. In addition, the design principles for the artefact were discussed and decided and these are presented in Table 3.

Before starting the interviews, the researcher had a workshop with the leadership team to understand the company culture in more detail. The researcher was at this time a recently joined company employee, so it was crucial to get more understanding and context to be able to focus on the right things and understand the priorities of focus also for the interviews. One point that arose from this workshop was that the current culture code need to be revised, as it was already over six months since it had been edited and since the company culture and practices had also evolved during that time.

The interviews were supposed to focus on collecting information and knowledge from the practitioners. The goal was to create documentation and explanations for the culture code points from different angles and make sure that all of the reasonings behind them are explained in enough detail but still in a compact form. Another goal of these interviews was to better understand if there were some potential nuance differences in the understanding and adoption of the different culture code points, and if some of them needs to be modified or even some new ones added or old ones removed from the documentation. With these steps, the purpose was also to evaluate the existing culture code 2.0 documentation and how it works in practice. By these one-on-one discussions it was possible to collect background material to be able to write the first updated, more detailed and descriptive version of the company culture code.

After interviewing the first six practitioners it was acknowledged that there was definitely a need for more practitioners to be interviewed to be able to get a wider and more realistic perspective on how the culture works in practice. It was noticed only after the first set of these interviews that the interviewed practitioners group was too heterogeneous and there needed to be people representing different teams, such as engineering and marketing. Also, people from different offices needed to be added to make sure the results would reflect the global company culture and not, for example, only potential sub-cultures that might exist in some form at different company office locations. As a result, the practitioner group was expanded from original 13 people to include 20 people altogether and it was possible to get more a comprehensive overview of the current

situation and how people describe the company culture, regardless of their nationality, team or gender, for example.

After the two tiers of interviews, there were enough data, background information and understanding to be able to write about the company culture in more detail. After collecting the material, the first version of the updated culture code was written together with the talent team member and it was presented to the company leadership team and discussed through. It was acknowledged that it is important that the text does not have writers' personal perceptions of the culture and it should concretely describe the culture in a neutral form and with Smartly.io's way of communicating and using, for example, coherent terminology. The leadership team of the company gave comments for the first version and the content was iterated based on the received comments. This editing based on leadership team's comments took altogether three iteration rounds until the first version of the culture code was in a form that the leadership team agreed with.

Simultaneously when these iteration rounds took place, the talent team started to plan the content of a companywide event called Cultur.io that was organized for the first time in the company's history. The idea of the Cultur.io event was to gather the whole company together to be able to discuss, define and make the company culture better. A significant time and effort was used in organizing and participating in the event since culture is seen by the company as being the key to the success in the long-run, and due to recent rapid growth, it was a good time to have the whole company together around this topic. Cultur.io was planned to be a whole day event full of different kinds of programs. One part of the event program was planned to be the presentation of the redefined culture code and explanation of the story behind each point. This was seen to be the best place to present the culture code, discuss it and get feedback on it since the end-users would be present at the event.

After the content of the first version of the culture code was aligned together with the leadership team, it was shared virtually in Google Docs format for the whole company through the internal chat tool, Flowdock. This was the first touchpoint with the end-users and they were asked to read it through before the Cultur.io event. End-users were also informed that the culture code would be presented in more detail in the event and that they were highly encouraged to give feedback and comments on it then.

After sharing the content of the culture code virtually for the whole company, the talent team started preparing slides of the culture code material for the Cultur.io event. At this point, the content of the culture code was only in black and white text format but it

was discussed with the leadership team that it would be important to have visual slides to explain and present it. Since it was, however, acknowledged that this visual format would not be the final one, the company's designer was not yet included and the basic design was done by talent team to present the taglines of the culture code.

The Cultur.io event took place a week after sharing the culture code virtually to all company employees. In the event itself, the leadership team presented the culture code for the whole company and after presenting each of the points of the culture code, there was time prepared for discussion and questions. During the event, the researcher took notes of all the comments and questions to be able to iterate the culture code into its next version and clarify points that people disagreed with or that needed better explanation. In addition, there was time during the event where all employees were able to send anonymous feedback, improvement ideas and suggestions on the presented culture code through a Google form,

After the company wide event, the researcher went through all comments, feedback and improvement areas to edit the culture code text and make sure it reflected the current culture even better, and so that it is relevant for the end-users. These edits were then discussed and checked through with the leadership team. The actual content of the culture code did not get many improvement ideas, but based on the feedback the taglines needed to be rephrased. This also resulted in a need to reorganize the content under the new taglines. To be able to finalize the culture code, there were five iteration rounds with the leadership team to align the final content and wordings. After the culture code was finalized, the project continued to the beta cycle to start creating the rest of the content for the culture handbook.

The goal for the beta cycle was to create the final artefact, the culture handbook. It was planned in the beginning of the project that the handbook would consist of this finalized culture code and also other documentation that explain the culture in the form of stories, descriptive examples and some guiding principles. In addition, it was planned that the handbook would also have more concrete explanations of the company ways of working, concerning topics such as recruiting, compensation and product development philosophy that explain the daily culture in more detail compared to the more abstract culture code documentation.

There was a separate workshop with the leadership team to be able to decide the needed documentation for the rest of the parts of the handbook. The goal of this workshop was to decide what areas should be covered and focused on. The additional parts were

chosen to describe everyday life at the company and to highlight areas in which the company has unique ways of operating and acting. Based on this discussion with the leadership team, the ten most important topics were decided on. These are described in the Table 2.

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7	Topic 8	Topic 9	Topic 10
Smartly.io Culture code	Explaining what Smartly.io does	Presenting Smartly.io team	Explaining how Smartly.io builds the product	Explaining how Smartly.io work with their customers	Explaining how Smartly.io hire and reward its employees	Explaining what transparency at Smartly.io means in practice	Explaining Smartly.io leadership philosophy	Explaining a Smartly.io roadmap and history by far	A look to the future of the industry and Smartly.io

Table 2. The needed content for the culture handbook.

These topics covered, for example, the way that product development is done at Smartly.io and what transparency at Smartly.io means in practice. Smartly.io has a virtual employee handbook that covers company practicalities and explains in detail, for example, what different tools are used. In the beginning of the project, it was discussed with the talent and leadership teams that these practicalities could be left out from the culture handbook since they do affect company culture that much. As a result, this kind of practicalities and details were left out and the focus was on the 10 chosen topics that describe the culture of Smartly.io.

The other parts of documentation for the handbook were conducted by interviewing the leadership team and also some practitioners about these specific topics. For each topic, there were one or two practitioners interviewed and different chapters were written based on these interviews. In addition, the content was collected from existing information in the company intranet and the researcher's own observations and knowledge about the topics. Most of the remaining parts of documentation focused on topics that are written down already in some format in the company intranet since they are aligning practical ways of communicating and operating. Because of this, this additional content could be collected much faster than the culture code, which is more abstract. After the content was collected together and written down with the talent team member, this new content together with the culture code was shared in Google Docs format to the leadership team practitioners and they were asked to read it through and give comments.

The given comments were discussed through with the company leadership team. Overall the comments were positive but one member of the team noticed that there needed

to be quotes from company employees, partners and customers so that the different points can be opened up more concretely in the Smartly.io context and so that they are easier to understand from different viewpoints. Another goal for these stories would be to widen the perspective for the reader, explaining what different parts mean from the different stakeholders' perspectives. For example, what it actually means that the company is working close to customers - not just from the employee perspective but also from an actual customer's perspective. Most of these stories were collected to the handbook from already existing stories and quotes that had been collected for other purposes mainly by the marketing team. In addition, some more quotes and stories needed to be sourced from employees, partners and customers to have examples in each of the sections in the handbook. These new quotes and stories were requested by email from partners and customers. In addition, they were asked face-to-face and through internal chat from the company employees. After the stories and quotes were collected, the content of the handbook was shared again to the leadership team, and commented on and edited in two iteration rounds, forming the first complete draft of the handbook.

After these steps, the content was shared virtually through internal Flowdock chat for the whole company for commenting and feedback. The handbook content was shared virtually in Google Docs format so that it was possible for everyone to make comments straight in the document in real time and so that everyone can see existing comments. This comment and feedback round got around 60 comments. Most of the comments were related to the chosen wordings but there were also comments on the overall content of the handbook.

At the same time as the content of the handbook was shared for all company employees to comment on, the researcher had a kick-off meeting with the designer who was making the final design of the handbook. The goal of the meeting was to start planning the visuals of the handbook and how different data and information could be presented. The feedback and commenting round for all company employees lasted three weeks and the designer had that time to start already preparing some visuals, infographics and photos.

After the commenting round was closed, the content of the handbook was edited to its final form and then once again aligned with the company leadership. After the content was finalized it was shared with the designer and the final design work was started. There were three workshops with the designer to give comments and check the status of the visuals and finalize the content for the final format. After the editing was done and the visuals for the handbook were ready, the handbook was shared for the whole company

through internal Flowdock chat and it was added as part of the company intranet to be able to access it easily. It was also internally released and presented in the company's weekly meeting.

3.2.3   Step 3: Reflection and Learning

The third stage of the ADR method focuses on reflection and learning. The main point is to shift learning and reflections into a broader class of problems. The actual Smartly.io case is discussed in more detail in this part. Reflection and learning from the alpha and beta cycles are presented and the artefact is discussed after both cycles.

In ADR method, the iterations and reflection are not a separate part of the BIE cycles and the actual process is discussed in more details in Step 2. The focus in on reflecting on the BIE cycles and critical decisions made to push the process forward. In this case especially the touchpoints with end-users are analyzed in more detail and learnings reflected to the whole project.

3.2.4   Step 4: Formalization of learning

The fourth and last stage of the ADR process is formalization of learning. This focuses on formalizing the learnings into design knowledge that the company can use to solve the found organizational problems in a broader picture (Sein et al., 2011).

In Smartly.io's case, the critical success factors for the research are evaluated and the utility for end-users is discussed. This is followed by analysis of the design principles and their importance for the project. In the end, the impact of the whole research is also analyzed from the Smartly.io case's perspective.

3.3 Method suitability for the case company

The ADR method was chosen to be able to examine the problem situation in the Smartly.io's organizational context. The research method supports and highlights that "the artefact emerges from interaction with the organizational context even when its initial design is guided by the researchers' intent" (Sein et al., 2011) which supported the suitability for the nature of the case study. After carefully going through alternative methods for case study, especially in the field of design research, the ADR method was found to be best suited for the company's need. The method allows researchers to learn from the intervention and different cycles, and to create academic content at the same time (Rogerson & Scott, 2014).

The outcomes of the project required repeated intervention to create socio-technical solutions to help solve the problems defined, which is not supported by, for example, the more traditional Action Design (AD) or Design Research (DR) methods. In the organization dominant method of ADR, it is possible to create an artefact that will be leveraged in the challenge related to the real-life inspired situation. In this research, the artefact was the virtual culture handbook that works as a tool to structure information in a visual format and to construct continuity.

3.4 Trustworthiness of the study

Since the ADR method is a relatively new method used in academic research and in the field of Information Services Science, this study focused on carefully following all the stages and principles presented by Sein et al., (2011) to ensure the trustworthiness of the study. The ADR method has clear guidance, steps and principles to follow which make it easy to follow also in the empirical part (Rogerson & Scott, 2014). The empirical study chapters have been divided into the four different parts based on the ADR process stages.

The ADR method helped the researcher to find a real-life inspired topic that was possible to research based on the researcher's observations. The company saw the potential of the subject and its impact company-wide, and decided to put a lot of time and effort from the researcher, practitioners and end-users into this study. The number of participants for the study, project cycles and smaller iteration rounds also enabled the generalization of the learnings into practical results and the virtual handbook that was taken into use throughout the company at the end of the project. The trustworthiness of the study is therefore supported by the large participation from the company and several different small iteration rounds with the leadership team, talent team and practitioners.

4   Empirical study

The end goal of this empirical case study was to create a virtual culture handbook for Smartly.io that could be used a scalable way and virtually in new employee onboarding. The motivation behind this is to create continuity for the culture boundary in the organization at the same time as the company is growing and expanding globally and the amount of virtual work is increasing. This is seen as an important focus area to be able to prevent discontinuity and possible conflicts that can happen in the culture boundary.

An empirical study was conducted to be able to collect the needed information and iterate it with practitioners and end-users to a format that is relevant for the end-users. The objective of the study was to capture the company culture explicitly and present it with informative visual designs.

4.1   Company background

The case company for this research, Smartly.io is a global company operating in the Software-as-a-service (SaaS) field. Smartly.io is automating and optimizing Facebook and Instagram marketing for the biggest advertisers in the world and had over 500 customers globally at the time of the study. There were about 110 employees working at the company at the time the research was started and about 150 by the time that the handbook was in its final format. The study was made together with the whole company and all employees were asked to participate in the research process.

Smartly.io is analyzed and researched as a virtual organization in this research. The reasons behind this are that the company employees have high flexibility to work where they want and when they want. The virtualness can be seen to happen in every day communications between employees, for example. Most of the company employees are based in a location that the company has also an office in. However, there are also some employees that are based in a city where the company does not have an office, at least yet, and these employees might be the only ones from the company working in that specific location.

The organization has been divided into different teams and these teams can also be referred to as virtual since at least some of the communications happens virtually in each of these teams. Teams can be in same geographic location or divided into different locations but typical for all of them is the use of computer-mediated communication technology and different degrees of virtuality. The different geographic locations and

offices of the company are not truly independent from the Helsinki-based headquarters. There are several different forms of virtual communications and virtual work that employees in these different locations are dealing with, which also add to the complexity of the boundaries in them. The company has, for example, weekly meetings held through a video conference system so that people in different locations can be part of the meeting in real-time. In addition, the main communication channel for the company employees is an internal chat tool, Flowdock, where most of the internal communication happens.

In addition to the physical locations where company offices are located, many employees are also travelling to be able to meet partners and customers, and to attend different events and conferences all around the world. So even though an employee is living in a city that the company has an office, they can still be working in several different locations throughout the week or month. This means that even communication and collaboration with team members that are based in same office can happen virtually most of the time.

4.2 The initial problem formulation

The company has been growing with a fast pace and they are also constantly increasing the number of employees that are working in different locations and places. To be able to support this expansion of the employees and make sure virtual work can happen without discontinuities limiting efficiency, the company sees company culture as core to successful expansion and growth happen. The challenge that the company is facing, however, is that there is no comprehensive written documentation to share the company culture in addition to the face-to-face communications about it. This is especially important when the amount of virtual work is increasing and that the knowledge sharing about the culture is trusted more and more to be done via virtual means.

The company believes that the value and impact of being able capture the knowledge and information about the company culture from the current employees to a form that is easy to understand and adapt also by new employees is huge. However, culture is something that has been transferred to other employees by stories and working together in same the location and the challenge is to transform this abstract knowledge into a form that can be scalable when the virtualness of the company is increasing even further.

4.2.1   The analysis of the increased virtualness

The company employees have high flexibility to work where they want and when they want. This has been something that the employees highly value and it allows a lot of freedom and ownership for them. Most of the internal communications are happening virtually and the main internal communication tool is Flowdock, an internal chat used company-wide by all employees. It is possible that even people working in same location have most of their communications virtually. In addition, remote work, global offices and travelling are constantly shifting more and more communication and actions online, and to be done virtually which reduces the amount of face-to-face communications.

Due to expanding frequently to new markets, there are also constantly more and more roles that require travelling. Most of the travelling is done to meet current or potential customers and partners. In addition, there can be, for example, meetings, seminars and conferences that regularly require travelling. In addition to the increasing amount of offices that the company has globally, there are also the first people that are based in a city where there are no other company employees. This means that their internal work and communications is done mainly or truly virtually with other company employees.

The company has wanted to keep the traditions of having, for example, companywide weekly meetings for all global offices and these are held in video conferences to be able to have participants joining real-time from different locations. A challenge related to this is that since the company has already expanded to so many different time zones, it is never possible to have all the company employees in the same weekly meeting and some need to watch the recording of the weekly meetings later on. In addition, most of the other meetings are also held virtually. The virtualness adds to the complexity of boundaries even more and there are also several different forms on virtualness, such as video and text-based communications in use. An important challenge related to this topic is how all the employees can still feel part of a team and able to communicate without conflicts arising. Especially in all virtual communications and meetings, the company culture boundary is existing and attention is needed to make sure that there are no discontinuities evolving in the boundary.

4.2.2   The analysis of the current culture documentation

From the beginning of the company history, the company's leadership team has put focus on creating a unique culture that reflects the company, its values and ways of working, so

that it can be scaled in the future for a global company and developed over time. Culture has been one of the main cornerstones for the success of the company being able to find and keep its customers, partners and talent. In the early days of the company, the culture started evolving based on the founders and first employees, and it has been evolving over time to new directions based on different changes made in the organization and new people that have joined as employees. The culture is seen as reflecting the current state of the company and reflecting the ways of working and values that they believe will get them to the set goals and vision.

Already in the early days, it was acknowledged that it is beneficial to have some documentation about the culture to be able to highlight its main principles and to explain it in detail for new employees, colleagues and external people. It was seen as important that this explicit communication about company culture can happen especially to onboard new employees to understand the values, ways of working, vision and principles of how the company and its people are operating on a daily base. It was seen that, with this coherency creation, it is possible to build continuity for the culture boundary and have it strengthen the company to operate efficiently and without conflicts. However, this topic was also seen to need constant focus and development.

To tackle this challenge in having a scalable way and propagate culture to all employees, Smartly.io had developed a culture code already in the early days of the company's history. The culture code is a format the company used to structure the main principles of their culture. In practice, the culture code has consisted of taglines that present the main principles of the culture and a short descriptive text that explains the taglines in more detail. The challenge related to this culture code documentation has been that since culture is an abstract topic, it is challenging to explain it explicitly. On one hand, it needs to be presented shortly so that it is easy to remember, but on the other hand, with too much simplification it can also be easily misunderstood. A too narrow description of the culture code can even lead to misunderstandings and differences in interpretation, which can create discontinuity in the culture boundary when employees are working and communicating with each other. Because of these challenges, it has been important that the culture propagation is not trusted only to the short-written culture code, but it is also constantly presented and discussed through in companywide meetings and events.

The culture code version 1.0 consisted of six different taglines and short descriptions explaining them. These are presented in Figure 5. The challenge related to the culture code version 1.0 was that it got a lot of feedback that it was hard to remember since it consisted

of six different taglines. Due to this feedback and the development of the culture, the next version of the culture code was decided to consist of fewer taglines that would be easier to remember. As a result, the version 2.0 of the culture code was developed a year later. This version 2.0 consisted of four different taglines and descriptions for them. This version is presented in Figure 6.

Humble Hungry Hunters

We are both super ambitious and super humble. Our team is building a world-class product, and we know the only way to do this is by truly helping our customers. We are great to work with because everyone is kind, hardworking and trustworthy.

Entrepreneurial Attitude

Everyone is an owner and can make decisions. We foster insane transparency by sharing information openly so that we all get a broader understanding of what we're working on and why it's important. We're a growth company with a startup spirit.

Fullstack People

Every Smartlie understands and knows the product. We are all "T-shaped" with deep skills in one area combined with a drive to collaborate across disciplines.

Close to Customers

Our company was born and inspired by the needs of customers. We believe our continued success will depend on understanding customers' needs and making sure we add value. This is why all Smartlies do customer support regularly.

Maximize Learning

Our business environment moves fast. We see this as huge opportunity to learn and develop quickly - as a team and as individuals. For us, it's not only how fast you learn, but how fast you can teach others. We seek feedback from colleagues, customers, partners, everyone.

Get Stuff Done Smartly – GSDS

All of us are doers and ready to get our hands dirty. If we see something is broken, we fix it. We believe in working smarter, not harder – if you want to get 10x better in what you do, simply working more hours is not the way.

Figure 5: Smartly.io culture code version 1.0.

Humble Hungry Hunters

We want to be the best in the world in what we do — building a world-class product and service for our customers. The only way to succeed is to be very humble towards our customers and teammates in asking for and listening to feedback. We're hungry to maximise learning and teach others around us.

We're All Full Stack

We're all T-shaped with unique deep skills in one area combined with a drive to collaborate across disciplines. Every Smartly deeply understands our product and the customers' pain points — allowing us to truly help our customers and stay ahead of the curve. At Smartly.io, everyone does customer support regularly to keep up with the evolving tool and customer needs.

Everyone is an Owner

We foster transparency and trust all Smartlies to make smart decisions that benefit the company in the long run. Smartly.io is run by strong teams with the autonomy and responsibility to define how we reach our shared goals. At Smartly.io, nothing is someone else's problem — we're all doers with an entrepreneurial attitude.

#WorkSmartly

We believe that if we want to be 10x better in what we do, simply working more hours is not the way — we must focus on impact. We automate the repetitive manual work for both our customers and ourselves to maximise the output. Working smarter, not harder, allows us to nurture a healthy work-life balance and support well-being within the team.

Figure 6. Smartly.io culture code version 2.0.

When the version 2.0 of the culture code had been in use for a while, it got feedback that it was actually not the number of taglines to remember but the understanding of these points that made it challenge to communicate or present them explicitly. This observation resulted in generalizing that if the understanding was not deep enough, it was difficult to explain and describe these points in a structured way, even though there would only be a couple points or words to remember. Based on these observations, it was acknowledged that the culture code needs to be developed further and also the format of presenting it needs to be thought through so that it supports easier recall.

4.2.3   The analysis of the new employee onboarding

After agreeing that there needs to be a clear, structured and comprehensive way to communicate about company culture, it was understood that there also needs to be a scalable way of doing this since the organization is growing and the recruiting pace has increased tremendously. The growing amount of remote work makes it constantly more important to onboard new employees to truly understand, adapt and commit to the ways the company is working, different values and being able to make independent decisions that benefit the company, employees, partners and customers. To be able to keep the highly valued transparency, freedom and ownership within the organization, it is important that

everyone is acting based on the same principles. Here, culture can work as a tool to create continuity for the virtual work and communications.

Before March 2017, the company had a few new employees starting every month but during that Spring there was a plan to speed the recruiting pace and have people starting every Monday. Due to this change, the researcher started to see a decreasing amount of human interaction, since there were not so many situations where new employees would learn about the company culture in practice from others. Usually this had been done by sharing, for example, different stories or examples of situations and how they have been handled. This mean that, for example, someone working in customer oriented work has been sharing some principles are best practices in working together with customers that can be supported by examples of earlier situations. Also, a part of the onboarding has been to work with and meet as many current employees as possible to be able to adopt different ways of working, learn knowledge from others and be familiar with other colleagues.

The company onboarding process for new employees lasts for 2 months. Usually the first or second week of the employment is spent at the headquarters where the company organizes different training sessions to give the needed background information and context for employees to start working independently. All of the company employees spend this week at headquarters, regardless of the location they will be based in. In practice, this visit to the headquarters lasts 1-3 weeks for new employees. This visit can also include more role specific onboarding, especially if the person will be independently based in a location where there are no other employees from their team. This inclusive onboarding in the first weeks has been noticed to be the most efficient way to transfer knowledge and for new employees to feel themselves part of the team. However, after these 1-3 weeks, new employees return to the location that they will be based at and for, for example, individual contributors that are working alone in a specific location, this can reduce the daily human interaction with other employees tremendously.

In addition to the company onboarding week in the Helsinki headquarters, each new employee gets an assigned mentor that will be proactively guiding and helping the new employee especially in the first two months. The role of the mentor is more proactive in the first couple weeks and each mentor creates an individual onboarding plan for their mentees to support them to growing into their role. After these first two weeks, mentoring shifts to a more reactive mode. If possible, mentors are chosen from the same office location but if not, then the mentoring is done virtually.

4.3 Problem formulation

4.3.1 Conceptualizing the research opportunity

It has been agreed in the literature that the first step to being able to lead company culture successfully is to be able to define it explicitly, but it is still important to acknowledge that this task is not an easy one to execute for any organization (Willcoxson and Millett, 2000). This is why the case study for Smartly.io is seen as an important action to create knowledge about culture that will support their future expansion and growth, also location wise. It is also recognized that with this kind of documentation, there can be coherency and continuities created that can result in many benefits both for the company and for the employees.

One challenge in onboarding employees on culture is communicating and propagating the organizational culture in the same amounts and ways to all new employees. It might also differ how much of this propagation is done face-to-face and how much virtually, and it might vary a lot between different employees. In addition to the new employee onboarding and introduction, it also takes time and effort to communicate about the constantly evolving culture also to current employees.

Based on several observations that supported these findings, the researcher started to see a pattern evolve that there needs to be more scalable and virtual way to be able to propagate the company culture and have it as a more structured part of the new employee onboarding regardless of the location that the employee will be working at. This was seen especially important when the organization was growing with increasing pace. It was observed that there needs to be constantly more effort used for the new employee onboarding to ensure that everyone understands the company vision, values, ways of working and different practices so that continuity is created and teams can work efficiently together. In addition, the objective was also to minimize possible misunderstandings and conflict situations that create discontinuities and instead to have clarified and clear company culture to guide people's behavior, actions and attitudes.

It has been noticed that it might take a long time for a new employee to feel like part of the organization and virtuality is making this even more challenging. Based on these observations, it was seen that there was constantly more focus and attention needed for this topic since also the amount of remote work, new offices and diversity is increasing and it is more and more important to understand, adopt and commit to these culture topics to be able to work without conflicts. In addition, the cultural understanding has been one the key

factors why the company has been able to build openness and transparency and have people take full responsibility for their own working area, such as a specific market and its customers. Every new employee will spend some time at the company headquarters and some of the culture propagation and onboarding can be done face-to-face, but the virtual culture handbook was seen as a crucial part in being able to support this with high scalability and to construct even more continuity around the organizational culture boundary.

4.3.2   The impact of the research

Onboarding in the company has had an increasing importance since there are constantly more offices and more new employees starting every week. Since there are also constantly more and more communication and activities happening virtually between different employees it becomes extremely important that everyone has the same values, principles and ways of working to be able to have coherent virtual communication and understanding of others. This clarified documentation brings coherency and understanding around the topic which is seen as resulting in continuity that help teams to maximize their efficient collaboration and communications. Especially in the future the number of new employees starting every week is increasing so the need for this research is growing exponentially. The improvement and development efforts related to this topic can be seen as creating a company-wide impact and effect from which the whole organization can benefit globally.

The scope of this research includes the whole organization and, especially as a key focus group for the end results, the new employees of the company. The scalability of the handbook is at the core of this research since there are new employees starting in different locations. The challenge is related to each employee that is starting at the company and the ready handbook is planned to be used in onboarding for all of them. In addition, the handbook will work as an internal tool that clarifies actions and practices, and creates coherence to different boundaries. The research is seen in the company as a knowledge-creation opportunity for this type of unique intersection of IT and organizational domains. Since this case study is practice-inspired and related to real-life problems, the research and design process is heavily driven by user's needs and they will take an active part in the process.

4.3.3 Expected issues

Regarding the documentation of company culture, there are several different issues that can be expected. One of the main ones is that it is expected that the finalization of the document will need several different iteration rounds, but it is still important to keep the process compact to avoid the culture already changing too much in the time that the research process takes to complete.

It has already been a challenge in the past to capture and document the company culture and doing this now, even with more details, will not certainly be any easier. Especially the alignment of the different sentences and words used will be a challenge since people can interpret and understand them in different ways. So instead of choosing the right words, it is even more important that the context and background for each topic is clarified and explained with supportive ways.

Since the culture has not previously been documented in a comprehensive way, it will be a challenge to agree about the main points as there may be some differing opinions about them. To tackle these issues, it was decided that the culture documentation would use different forms of communications such as narrative text by the authors, but also referred stories from company employees, partners and employees.

4.4 Building, intervention and evaluation

The BIE method for this research was divided into two different BIE cycles: alpha and beta. After the cycles, the artefact was created in the form of a virtual culture handbook that was ready to use in new employee onboarding and that was added as part of the company intranet. Executing the BIE cycles took six months and the project involved the whole company. The detailed steps of executing the BIE cycles and actions are described in Chapter 3 of this research.

4.4.1 Knowledge-creation target

Based on researcher's observations and workshop sessions with case company management, the initial knowledge-creation target was formed. It was agreed by the researcher and management that the end goal of the project is to have a coherent and comprehensive virtual culture handbook to communicate explicitly about the company's culture, values and ways of working. The reason behind this goal is that this virtual culture handbook can be used in the company intranet and in other virtual communications as part of the new employee onboarding that starts from the first day of employment. The

objective is to have this information and documentation in a form that is easy to use virtually on all devices, and that helps the understanding and adoption process for the new employees.

4.4.2   Design principles for the handbook

The mission for the project was to find a suitable format, content and design for the artefact. The organizational problem in this context is to design an easy way to use company culture related information virtually within the whole organization, and to find supportive ways to have it as part of the new employee onboarding process compared to the existing face-to-face communications and propagation. It was decided that the end format of the artefact is a visual handbook that consist of text, photos, infographics and different visual settings. Based on Agrawala et al. (2011) this type of visual way to present information supports the user in comprehending and remembering the presented content, which was seen as a highly important objective for the artefact in practice.

The main point of creating a culture handbook is that it will be relevant for the end-users in practice. To make sure that the end format will be useful, it is important to decide upon major design principles so that the end design can also reflect the desired outcome (Pettersson, 2010). This is why it was decided that the handbook was to be developed together with practitioners and end-users, making sure that the format and content is relevant and that the efforts used for the project are not wasted. Based on this, the researcher decided together with the talent team on three main design principles for the project, which are presented in Table 3. The design principles also reflect the earlier observations and recognized need for the project. The decided design principles were inspired by earlier literature and especially by the research field of visual communications (Agrawala et al., 2011).

Design Principles for the Culture Handbook	Why?
Principle 1: Virtual format	Scalable way to present the culture. Easy to access virtually with all devices. Easy to edit and make changes.
Principle 2: Informative graphic designs to support the message	Graphic design that supports the understanding and adoption of the information. Make sure the handbook is compelling to read.
Principle 3: Cross-organizational participation for the content creation	Make sure the relevance for end-users. Make sure the content is reflecting the organizational culture neutrally and without writers or researchers own perception of it.

Table 3: Design principles for the culture handbook.

Principle 1: A virtual format to support the challenge of scaling culture propagation as part of the new employee onboarding. It was also agreed that this format supports easy access with different devices and different locations. A virtual format would also support that changes would be easy to make, which supports keeping the handbook constantly up-to-date and consistent with the latest information. This was also seen to be crucial to create a mindset for the employees that the function of the handbook is not to work as a one-time read, but rather to be a tool that is in constant use.

Principle 2: Informative graphic design to support the message. This principle was decided based on the challenge of people having difficulties to remember the culture code points even though there would be only few of them. The informative graphic designs were thought to help remembering and understanding of the content. It was also noticed that to be able to create this comprehensive documentation, there needed to be a lot of content and from the end-user's perspective it might not be appealing to read it only in black and white. The visuals were hoped to bring clarity also for the main principles and parts to remember, and make it feel and look like Smartly.io.

Principle 3: Cross-organizational participation for the content creation to maximize relevance for end-users. With this principle, it was also seen as important that the focus is on creating content that will be interesting for end-users to read and help them in adopting the cultural practices in daily life. The only way to actually do this was seen to be including the whole company in the project and giving everyone an opportunity to bring their feedback, comments and ideas to it. In addition, the chosen practitioners were seen to be crucial in reflecting different points of the culture, and in giving stories and examples for creating the documentation. In addition, end-users are crucial in creating the documentation into a format that is appealing for them to read and easy to understand. It was seen that there needed to be a mix of new and old employees that might have also different experiences related to the same culture points. With this large participation group, the likelihood that the documentation truly reflects the right things, stays on a concrete level and is not reflecting, for example, the writers own perceptions of the culture was maximized.

4.5 Reflection and Learning

Based on the researcher's own observations and experiences as a new company employee, the initial problem formulation was created. It was discussed through with the company

leadership team, who agreed that there was a need for this kind of culture documentation to be developed. Even though there were some existing information and documentation about the company culture, it had been noticed that it needs to be written in more detail and concretely to have it in a form that minimizes misunderstandings and prevents discontinuities from arising.

4.5.1 Reflection and Learning from the alpha cycle

The project itself started with a kick-off with the talent team and it was discussed through what would be the right format for the handbook. Some sort of virtual format would be the most practical to use, it would save in printing and it would be easier to edit. Especially the editing was something that was considered one of the key elements for the documentation since the examples, numbers and the culture itself change over time. The company does not usually have a lot designer resources for internal communication but this topic was seen to be so critical for the whole company, that the visual outlook of the handbook was seen as an important part in adding relevance for end-users.

The first crucial step for the research was the one-on-one interviews with practitioners, since they gave a lot of ideas and thoughts to the researcher about the whole topic overall. In addition, the interviews worked well in being able to question the existing culture code documentation and how practical it is in use. The most interesting finding from these interviews was that none of the practitioners, excluding company leadership and the talent team, were able to remember the different points of the current culture code documentation even though there were only four taglines to remember. However, during the interviews, these practitioners were asked to describe the company culture in their own words and then all of the main points were somehow mentioned, just in a different order and with different words and examples to explain them. When thinking about this from new employee perspective, it can be really challenging to grasp the main points to remember when the information is not in an organized format. So even though employees can explain the culture in different ways, they can create misunderstandings especially for new employees that might not yet have all the context necessary to understand what the points mean in practice. Since there were a lot of challenges related to the current taglines, the researcher decided to question whether they should be changed.

Tagline number 1: Humble Hungry Hunters was something that was easy for the interviewed people to remember as a tagline but hard to explain in practice. The meanings of words humble and hungry were easy to explain for practitioners but most of the

interviewed people struggled in explaining the difference between hungry and hunter. In version 2.0 of the culture code documentation all the four taglines are presented as equal. It was observed during the interviews that this tagline number 1 was, however, thought to reflect what a typical company employee is and the other points were thought to reflect more the ways that they act.

There were also some challenges with the tagline number 3: Everyone is an Owner. It was explained in its practical meaning. Everyone at Smartly.io gets a part of the company as options, so in practice everyone is an owner at the company. However, the initial idea of the point had been to highlight ownership as a way of working more than its practical meaning, even though both are important parts of the company culture. The options and being concretely an owner of the company are seen to be one part of this bigger topic of ownership.

Tagline 2 and 4 were something that the practitioners were able to explain really well, in a coherent way and without much challenge, based on the interviews. However, when the interviewed people where asked whether there is something missing from the current culture code, two topics arose. Firstly, the practitioners saw that the company has a unique way of collaborating with customers, which is also in the core of the culture and daily work. It was mentioned that this should be one of the key things highlighted since it is one of the main reasons why current customers have continued collaboration and it is also important for the people doing customer facing work. In addition, some practitioners mentioned that constant learning is something that is highly valued among employees. Learning was even mentioned as one of the key things for people's motivation.

After analyzing the interviews and the existing culture documentation, it was noticed that the challenge of not remembering the taglines was not related to how many there were of them. Neither was the challenge that people do not understand how they actually work, since at least in the interviews they were good at explaining how they see the culture code principles in their work in practice. The challenge was related to having them in a format that is easy for people to understand and having taglines that support remembering their content. Based on this, one of the key principles for the first draft of the new culture code documentation was short self-explanatory taglines. Based on this analysis and discussion with the company leadership and talent teams, the first format of the updated culture code was presented at the Cultur.io event. The taglines are described in Figure 7. The format of presenting the culture code was also changed from the previous boxes where all the parts

were presented as equal. In this new version, Humble & Hungry were placed in the middle to present the identity of the culture and employees.

Figure 7: The first draft of the culture code version 3.0.

Based on the discussion at the Cultur.io event about company culture, the goal was to develop it together, and to define in even more detail what the principles and parts are that describe it best at the current time. The first version of the culture code version 3.0 got a lot of feedback. On the positive side, the new round format and having the Humble and Hungry in the middle was appraised as a good development. It was also agreed that five taglines were better than four, but still many of the end-users mentioned that the learning should also be included as a tagline, since it is a big part of the company and its ways of operating. This version presented the taglines in a shorter form that might be easier to remember, but the feedback collected suggested that shorter ones are actually even harder to remember since they are too generic. The content of the culture points was mainly

agreed upon but there were a lot of different concrete suggestions related to the culture code taglines. For example, #WorkSmartly was changed to "Drive for an impact" but the feedback from end-users was that this new tagline was more generic and that it was hard to understand what impact actually means in it, creating even more possibilities for misunderstanding.

Based on the comments and feedback in the event and through the form, the next version of the culture code was edited and iterated with the talent and leadership teams to its final format presented in Figure 8. The content itself was not changed much but the taglines were changed to less generic ones to better reflect the unique culture that the company has. In addition, the content was re-organized under these taglines.

Figure 8: The finalized Smartly.io culture code version 3.0.

In addition to the visual format of presenting the culture code, the version with descriptions was added to the company intranet to explain the content in more detail. This version with descriptions is presented in Figure 9.
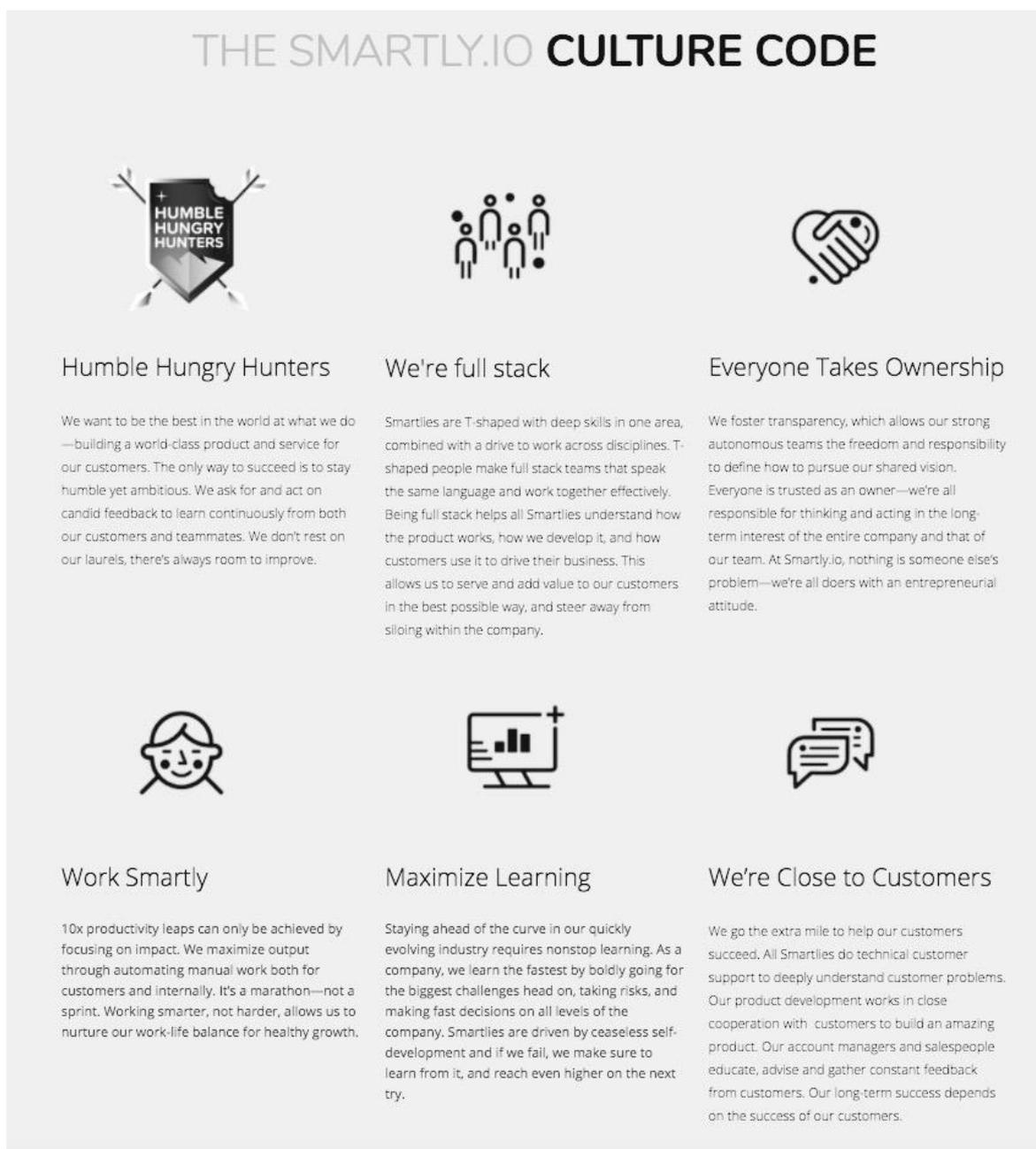

Figure 9: Finalized culture code with descriptions.

4.5.2   Reflection and Learning from the beta cycle

After finalizing the culture code, the planning and creation of the rest of the handbook was started. After executing the alpha cycle, it was surprising for the researcher how long the iteration took in total and how challenging it was to capture the culture in an explicit

format taking into account both the existing and new information. The beta cycle was planned to be much shorter, since it was more focused on the collection of existing information that is already more concrete and practical, and even partly visible.

The content for the rest of the handbook was asked for in small interview sessions in addition to using the existing materials and knowledge about the topics. The materials were relatively fast to collect, also because the topics and needed content for the rest of the handbook had been decided in the workshop meeting together with the leadership and talent team (Table 2). The challenge in this part was more related to having each part be a bit separate and not repeating the same things in all chapters. Most of the topics were linked to each other in some way, so careful consideration was needed to organize the content. It was possible to collect stories and quotes effectively with the help of practitioners and end-users. It was, however, a bit challenging to collect to stories that they were focusing on different points, so it was necessary to collect them one by one and then check the needed topics iteratively. It was noticed that the stories explained the points more concretely even for the researcher, so their impact on the whole handbook was observed to be highly valuable.

The design process itself took a shorter time than expected. The initial idea was to have a lot of photos and infographics, but to serve the end-users' needs, having graphics and tables on each page was deemed too complex. This decision also made the design process faster. After this decision, the graphic designer had a clear vision for the visuals and how the content could be structured and supported with infographics and photos. With a close feedback loop, the designer made the designs iteratively in a short schedule. The final version of the whole handbook is presented in Appendix 2.

4.6 Formalization of Learning

In the final part of this research, the learnings were formalized so that they could be taken in use in the broader class of problems and instances related to this matter. Based on the research it was possible to conclude that clear and understandable culture documentation helps and supports creating continuity for the culture boundary when an organization is working in virtual mode. In addition, the research process worked as a clarifying method to discuss and refine the culture together with end-users and practitioners.

4.6.1 Critical success factors

The success of the BIE cycles required close support from Smartly.io during the whole project. Without the support from the leadership team and talent teams the content of the handbook would have been impossible to create. The most valuable support and insight were the participation of the practitioners, which enabled the artefact produced to be relevant for the end-users. What was analyzed afterwards was also that it was really beneficial for the project that the researcher was a company employee. This helped the researcher to get honest and informative answers, and always get help when needed, even with short notice. Also, the participation of end-users was really crucial since they were able to bring ideas and perspectives that might not be considered from the current or old employee perspective. For example, that the same term can mean different things in different company contexts.

Even though the process consisted of two bigger cycles, the alpha and beta, it was crucial that there were smaller iteration rounds taking place constantly during the whole project. This helped to develop the content, keep the focus on the right things and it supported project execution in such a tight schedule for this kind of project. Small iterations also enabled editing the order of cycles' action steps, ensuring the relevance for the end-users. The iteration enabled that the captured knowledge to be the most up-to-date, since some topics were in the process of changing during the project and more discussion was needed to explain them concretely.

It was important that the project had a strict timeline, since it also helped to get the right attention and urgency for the topic. The company culture event also supported the adoption of the handbook content later on, since the whole company was involved in discussing the topics there, also other than just virtually. The guidelines for the project made sure the project did not expand too long and, with the iterative method, made it possible to take parts of it into use before having the whole handbook complete.

4.6.2 Utility for end-users

One of the key principles when conducting this project was that there needed to be a format that makes updating the handbook convenient. Especially considering the effort and time that the whole company put to the project, it was agreed that the artefact needed to something that can be utilized long-term in the future and not just at the time of the release. With this decision, the culture handbook was seen to become an internal tool rather than an informative one-time communication method. It was an important decision that the

handbook would be kept in a form that is easy to access everywhere and with all different devices, such as mobile, tablets and laptops.

It was also crucial to decide that not even a single version would be printed, since it would have affected people's understanding that the handbook is not only something that has been done once but that it needs constant work in the future to be able to keep it updated. It was also discussed with the leadership team that the content, quotes and numbers need to be checked at least twice a year to be able to make sure that the content is updated and relevant for the end-users. This also enabled that the content is concrete and not too abstract, which got a lot of positive feedback from the end-users.

4.6.3 Design principles

The design principles for the project were crucial to keep the focus on the right things and to be able to evaluate the decisions, design and redesign that were done during the whole project. It was important that they worked as guiding principles throughout the project, and also that the content for the handbook and visual design were planned based on the principles. The design principles were defined already in the beginning of the process, which helped the planning process and to always keep the end-users in mind. It was important to understand that the form the culture is presented in needed to be clear, with taglines focusing on the main points, so that they are easy to remember and the culture can be explained to some extent only by using the taglines. To support this even more, the company ordered stickers with these taglines so that it would be easier for employees to explain them to others with their own words, examples and stories. In the end, the design principles were followed well and it was practical that they were not planned in too much detail so that the process itself was also flexible to changes during the BIE cycles.

4.6.4 The impact of the project

What comes to the impact of the project, the culture handbook is considered one of the most important internal documents that has been created in the company. The initial idea was that it is created to support especially the new employee onboarding, helping new employees to understand the company culture and able to adapt to it. Based on the feedback from the end users, the handbook also brought important context for the company culture. This context was described to be crucial in understanding what different culture code points mean in the context of Smartly.io. This understanding was described to increase also the willingness to act according to the culture principles.

It was agreed that this virtual culture handbook was the most scalable way to support onboarding of new employees in a highly virtual organization. In addition, the whole project also clarified the key principles of the culture for the current company employees and it supported them being able to speak about it in a more structured and understandable way. As an example, mentors for the new employees were encouraged to take the handbook in use. As a feedback, one of the mentors told that reading the handbook helped him to communicate about the culture clearly for the new employee. In addition, it helped him to provide practical examples that helped the new employee to gain needed understanding of the role and different responsibilities.

It was also important to learn that the participation of the whole company increased the usefulness of the study. Participating so many individuals made them take ownership of the project and get familiar with the updated documentation. It also encouraged employees to talk openly and honestly about the culture and have a common project for the employees to develop it further together. As an example, one of the end-users stated that the culture handbook helped her to understand the culture more in-depth, so that it is also easier to take action in case she sees the culture principles are being neglected.

After the culture handbook was published for the whole company to use and added as part of the company intranet, even more use cases for it were discovered in addition to using it in new employee onboarding and as an internal tool for current employees. It was discussed with the company leadership team that the handbook could be used publicly on the company website. The impact of this was seen to be even bigger since it can work as documentation that explains things practically and gives information for people that might not be possible to see otherwise. The advantage of sharing the handbook publically, was that it is seen as great for talent marketing and explaining Smartly.io's ways of working to, for example, potential customers and partners.

5 Summary

5.1 Theoretical implications

Virtual work has created new opportunities for organizations to gain competitive advantages and to organize their work. Important for organizations is to understand how virtual teams operate to be able to provide the needed support for the teams which can result in improved performance of teams and organizations (Ahuja and Galvin, 2003). The increased virtualness in organizations has also created new challenges for management and how they need to organize virtual work to maximize results. This challenge was also acknowledged in the case company Smartly.io since the amount of virtualness is constantly increasing in the organization. As a result, the company has acknowledged that there needs to be constant work and development to be able to manage virtual work effectively. What adds even more complexity is that, when it comes to organizational research, virtual organizations cannot be assumed to be similar to each other. Instead, there are several different contextual factors that should be taken into account (Watson-Manheim et al., 2012). This also confirms how important case studies are for companies like Smartly.io to be able to create practical outcomes that are beneficial in the context of that specific company.

Regardless of the challenge of researching virtual organizations, the conceptual tool of organizational boundaries has been useful in analyzing virtual work in an organizations' unique context. The concept of organizational boundaries covers the actual working practices and perceptions of other people within that boundary in the virtual work (Watson-Manheim et al., 2012). There are several different boundaries like this in organizations, which can be analyzed separately or in relation to each other. Virtualization adds to the complexity and contextuality of organizational boundaries even more (Breu and Hemingway, 2004). One widely shared method of analyzing organizational boundaries in more detail is the concept on continuities and discontinuities. Discontinuities are seen as a lack of coherence that can result in, for example, conflicts in virtual teamwork. Continuities, instead, are seen as a method for building consistency and also preventing discontinuities from happening (Watson-Manheim et al., 2002). In the case of Smartly.io there are several different boundaries recognized in virtual work. The concept of continuities and discontinuities was seen potential to prevent conflicts to happen in these

boundaries and to build needed continuity that improves the results of virtual work and prevents discontinuities to happen.

One of the boundaries that can exist in all organizations is the boundary of organizational culture that focuses on the shared practices and values between employees of the company. Culture is a regularly used term in the organizational context, but to be truly able to manage it effectively it needs to be recognized and captured in a form that it can be communicated and explained to employees (Willcoxson and Millett, 2000). Smartly.io leadership team had understood the importance of the culture already in the early days of the company and different documentation had been written about it and developed over time. However, there was a need for more comprehensive and explicit documentation that also supports the understanding and adoption of the culture. The importance of this documentation was seen to be company-wide and have a huge impact for the whole company if it is created for virtual format.

In practice, clarified and explicit culture documentation also supports socialization activities and helps new employees, for example, to understand what is appropriate behaviour in a workplace regardless of the possible differences in national cultures in different geographic locations. As a result, these cultural norms can even guide people's doing, feeling and thinking (Van Maanen and Schein, 1977). In Smartly.io case, the explicit documentation even encouraged and helped employees to take action if some culture principles are being neglected. It also helped new employees to understand the culture better and to be able to speak about it and to guide their behaviour.

Regarding the case study, it is also important to understand how the documentation of culture can be understood among end-users and the focus should be on making this documentation from an end-user, rather than management, perspective. Because of this, it was crucial to choose ADR method for this study and to be able to participate employees of the company throughout the project. This was especially important to ensure that the handbook is relevant for the end-users and that employees feel culture to be everyone's responsibility. When propagating the culture, it also helps that there are supportive ways to describe it for employees so that they are truly able to understand the reasoning behind it and adapt accordingly (Chudoba et al., 2005). Because of this, it was also extremely important that the different design principles were agreed in the beginning to make sure they are reflecting the need of end-users and desired outcomes. Most culture communications at Smartly.io had happened through face-to-face communications before

and this virtual culture handbook helped to support already existing methods and to enable virtual access for the culture documentation.

There are several different advantages that can result from managing organizational culture well. For example, commitment to the organization can increase as a result of a well-managed culture (Manetje and Martins, 2009). Due to the huge impact that culture has for organizations, it is also extremely important that culture is taught to all new employees as part of their onboarding to be able to have them successfully become part of the organization. In addition, it is important that discontinuities are avoided and prevented by creating coherency that can result in perceived continuities within these boundaries. The importance of onboarding for new employees cannot be ignored in companies and there are also several different drawbacks that can results if onboarding is not handled great. Ineffectiveness, conflicts or even loosing employees can be implications of not taking enough care of onboarding for new employees (Bauer and Erdogan 2011). This was also the case in Smartly.io's situation and it was seen to be important to prevent discontinuities to evolve rather than let them evolve and then solve possible conflicts. Controversially, successful socialization activities for new employees can have variety of positive impacts such as minimized turnover rates, increased satisfaction and commitment and improved performance (Allen, 2006; Bauer and Erdogan 2011). The culture handbook for Smartly.io helped new employees to adapt for the culture faster, which also resulted in improved performance of virtual teams.

However, there is no one major factor that would help organizations to do great results in onboarding. Instead, these results are a sum of several different socialization activities. Mentors for new employees, for example, can have a significant role for creating continuity for onboarding (Bauer and Erdogan 2011). Mentors at Smartly.io were also highly encouraged to read the handbook through and to use it during the new employee onboarding. Based on feedback from mentors, it worked as an efficient internal tool for them and helped them to mentor new employees for their roles effectively. It is also important to notice that in addition to face-to-face meetings and discussions, other socialization activities are also important for new employees (Oshri et al., 2007). Regardless of the efforts that creating continuity will need, it is an important topic for organizations to focus on. By managing the ways and means how virtual teams are working, organizations have new ways to compete globally and achieve competitive advantages (Bergiel et al., 2008). For the Smartly.io case this was seen to be beneficial for external communications, in addition to the original target group of the research. It proved

to be beneficial for example in communications towards potential recruiting candidates, customers and partners that has already created impactful results for the whole company.

5.2 Managerial implications

This case study showed that managing the organizational culture boundary is definitely not an easy task. There are several different factors such as different roles, teams and geographic locations that might affect to the perceptions and use of the culture in practice and, to be truly able to affect how it works in practice, all of these areas need to be understood. It was also seen from this case study that researching even just one boundary at a time was very time consuming and challenging, and it would have been impossible to include several boundaries and to have such a concrete outcome of the study.

What comes to the documentation of the culture, it is extremely important that the leadership and founders of the company are highly involved in the process. By including them in the process, it is possible to keep the right focus and also to understand the organizational culture in more detail. With the understanding, it is also possible to see culture as part of the bigger picture of achieving the company's vision and to understand how organizational culture will help the company and its employees to get to their vision and achieve the different goals related to it. It is also important to understand that company culture is constantly evolving even though some of the main principles might remain the same. This was seen to happen also during the case study and some changes needed to be made to the documentation to reflect the most up-to-date information.

The empirical research showed that it is important that company employees are also highly involved when this kind of documentation is written. Without involving them in the project, it would be hard to know how they are using culture in practice, what are possible unclear parts and to also transfer the ownership of the culture to the employees instead of just company management. In addition, there were differences between how new and old employees understand and see the culture in practice, and to capture the culture in a way that is easy for everyone to understand, both of these groups needed to take into account.

The findings suggest that there also need to be supportive ways to propagate the culture to new employees. Virtual organization add complexity and the balance between virtual and face-to-face communications need to be considered. In addition to face-to-face and virtual communications around the topic, the handbook was seen as scalable way to educate, develop and have material to discuss about the company culture in detail.

However, it was seen that the oral and face-to-face communications about the culture couldn't be removed entirely.

The project ended up being really impactful for the whole company. The culture handbook is utilized by all new employees as part of their onboarding, and it also ended up working as an internal tool for current employees to clarify and explain the company culture in more detail. It was also published on the company's website and got lot of positive attention and feedback from external stakeholders. As a result, it is recommended that as a step towards creating continuity for the culture boundary, it is important to first capture the culture in an explicit format. This documentation can then be used in communications and defining the practices and ways of working also for the new employees joining the company.

5.3 Limitations and further research

Even though the research got broad support from all employees and the company leadership team, there are still major limitations to consider in this research. Firstly, the limited time for the research needs to be taken into account, since there was not, for example, time to have extra cycles in the BIE stage of the research. It is possible that the results would have been more accurate if more iteration cycles would have been executed, but with the strong support from the leadership team it was possible to formalize the learning and iterate the content with a smaller group of people. It was also acknowledged that there would be never a situation that every company employee would 100% agree with every word and phrasing in the culture handbook. So, it was decided that these two cycles were comprehensive enough for the researcher to create, iterate and finalize the needed content in a format that employees can agree to and so that it would be usable for the end-users.

Secondly, the research itself was conducted by only one researcher even though there was strong support from the talent team member during the whole project and in writing the actual finalized content. The limitation of this is that there is a possibility that the writer's and researcher's own voice and perceptions of the culture have affected the end format of the culture handbook. However, several iteration rounds enabled the process to have a lot of touchpoints with the practitioner group to be able to minimize this. Support from several researchers would have enabled a wider perspective in looking at the problems, analyzing them and adapting to them.

Thirdly, the research trusted heavily on the observations of the researcher, so that the findings and generalizations might not be possible to utilize in a broader instance of this problem in other organizations. The research was highly contextual to the specific situation and boundaries of Smartly.io as a company, which also limits the generalization of learnings for other companies. This means that, for example, the same topics might not be relevant in creating a handbook for another company for example.

A fourth limitation to consider is that the ADR method is mainly focusing on IT dominant artefacts but in this case study IT did not play a huge role. The role of IT impacted the end design's format, but it would have been possible to do it also as printed version, without touchpoints for IT.

This case study was limited to one company and within a specific time frame. In the future, it would be beneficial to research this topic with different companies and from different industries to see how the results differ and if there is some more generalization to be done. The ADR method is also relatively new and there is not enough data to be able to evaluate what would be the most efficient way to conduct this kind of case studies. In the future, this could be analyzed further and it would be possible to find some generalizable BIE processes and design principles that could help in executing the process more efficiently. This case study focused on analyzing only the organizational culture boundary, but in the future, it would be important to learn how different boundaries are affecting each other. For example, in this case study, the national culture boundary probably had some effects on the organizational culture and these could be analyzed in a relation to each other.

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Appendix A: Interview questions for practitioners

ENVIRONMENT / CULTURE
- What three (3) words would you use to describe the company culture? Tell examples of each.
- Describe the working environment at the company
- List three (3) factors that matters you the most at working at the company. What are the things you appreciate the most? What makes the company to feel different / unique from other companies?
- What is central to who we are as a company that should never change?

EMPLOYEES / PERSONAL
- Why is the work you do important to you?
- What five (5) adjectives would you use to describe a typical employee? What are the typical characteristics/ ways of working for every employee. Give examples how you can see these adjectives in practise in daily life at the office.
- Present one person at the company that you admire. Why do you admire her/him?
- How does the organization support your learning, development and career growth?

TEAMS
- How would you describe relationships between company employees, how they interact with each other?
- What is the role of teams and teamwork at the company?

COMMUNICATION
- How would you describe our ways of communication?
- How people here handle conflict or differing opinions?
- How people interact with customers?

LEADERSHIP
- How would you describe leadership / management style at the company?
- What is the role of team leads?

CULTURE CODE
- If we look out Culture Code, how would you describe the different parts can be seen in practice in daily life. Give examples of each: what they mean in company level and how you can see them in your own daily life?

STORIES
- What's the funniest/craziest memory related to the company that you have?
- Tell a story of moment of failure that you have had in the company. How did you handle it? What did you learn from it?
- Tell story of your biggest moment of learning at the company.

Appendix B: The Smartly.io Culture Handbook

Link for the online version of the Culture Handbook at Smartly.io website:

https://cdn2.hubspot.net/hubfs/1570479/Smartly_CultureBook_2017-9-2.pdf?__hssc=87482439.1.1513590190642&__hstc=87482439.c1c48046f21387506d1569020ab44f1d.1488974427399.1513588306479.1513590190642.155&__hsfp=2240403051&hsCtaTracking=19e96851-37ba-4790-b078-3df71404913b%7C65362de1-3942-4c23-93e7-b74bbb08b1fa