



Designing an organisation’s design culture: How appropriation of service design tools and methods cultivates sustainable design capabilities in SMEs

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Abstract

Service design (SD) is acknowledged as an approach that can help organisations to address service innovation. However, organisations are struggling to build design capabilities and develop sustainable SD cultures within the organisations. This paper focuses on this central challenge by exploring how a small and medium-sized “non-design-intensive organisation” can integrate SD both as a way to develop internal design capabilities and as an approach to service innovation. We report on an action research study in which we initiated seven SD micro cases. The findings show how our designed SD learning activities developed autonomous SD initiatives within the organisation, and thus over time fostered a sustainable SD culture in this context. Based on our findings, we conclude that organisational appropriation of SD tools and methods is crucial for an organisation’s ability to build and sustain capabilities which can foster an SD culture.

Keywords: service design, service innovation, design capabilities, organisational change, design culture

Introduction

It is becoming increasingly difficult for organisations to ignore the need to hold inherent capabilities for continuous improvement and development work (Wetter-Edman & Malmberg, 2016). Therefore, more and more organisations are investing in design-enhancing initiatives as a way to become more innovative and competitive (Lima & Sangiorgi, 2018; Wetter-Edman & Malmberg, 2016). SD has been recognised as a useful and beneficial approach to service innovation, due to the way it supports the generation of innovative ideas through a user-centric and holistic perspective (Meroni & Sangiorgi, 2011). However, research shows that many organisations experience difficulty in developing a sustainable SD culture from within the organisation (Holmlid & Malmberg, 2018; Lima & Sangiorgi, 2018). So far, there has been little discussion about how small and medium-sized organisations (SMEs) can overcome the critical challenge of not only integrating SD tools and methods but doing so in ways that foster a sustainable SD culture in the organisation. This paper explores how a medium-sized, non-design-intensive service organisation can integrate SD as an approach to build and sustain design capabilities and address service innovation.

SD constitutes a human-centred, holistic, creative, and iterative approach to creating new or improved existing services (Blomkvist et al., 2010; Meroni & Sangiorgi, 2011). While these definitions have proven useful in previous studies, this paper argues they are too limited when discussing the adoption of SD in SMEs. Instead, this paper makes use of an understanding of SD, as proposed by Blomberg & Darrah (2015). In this perspective 'designing' is understood as a bundle of activities rather than a single activity or process and 'services' constitute "fundamentally abstract propositions or transformations [that] are replaced with socio-material configurations of people and their know-how, artifacts and spaces" (ibid. p. 74). This means that services are deeply embedded within practices as well as enacted through practices (Blomberg & Darrah, 2015). This perspective embraces an understanding of SD that it can be practised beyond a single process and in between projects.

Based on our framing of SD, what does it mean, then, to build sustainable design capabilities (Malmberg, 2017)? The notion of design culture has

emerged as a multifaceted concept which aims to shed light on the qualities by which design is practised, meaning how design is perceived, understood and enacted in everyday life (Julier, 2006). This means a design culture can exist at a very local level, for instance in a specific organisational context, and is influenced by an organisation's design capabilities, as these make up how and to what extent design is practised within a given context (Malmberg, 2017). When adding 'sustainable' to the concept of design culture, it is essential to have the context of the study in mind. SMEs are often incapable of simply hiring (service) designers and rarely have specific design departments that can drive change. Thus, if design should be part of a non-design intensive SME, it needs to be part of their DNA. A *sustainable* design culture for SMEs means integrating design in ways that are durable according to their size and resources in the long-term. On this basis, the term sustainable design culture will be used throughout this paper to refer to an organisation's ability to change dominant organisational cultures by making use of SD in ways that prompt continuous service innovation over time.

This study is situated at the medium-sized service organisation Industriens Uddannelser (in English: The Education Secretariat for Industry, hereafter the acronym IU is used), which is an education secretariat based in Copenhagen, Denmark. IU facilitates the collaboration between multiple labour market partners to develop educational programs for vocational training and adult vocational training in the industrial sector in Denmark. Prior to this study, IU had minimal knowledge of and experience with creative problem solving and "design thinking" (Curedale, 2019). This paper presents an empirical study where the authors initiated SD initiatives, so-called "service design micro cases", to develop SD capabilities at IU. We show how these micro cases spurred additional initiatives and manifested an emergent design culture at IU. The paper takes a socio-cultural perspective to discuss how SMEs can initiate learning activities that help to overcome the challenges of integrating and maintaining SD as an approach to service innovation. Due to the study's organisational context, this paper makes use of the notion of service innovation as a new or improved process or service offering that is put into practice and adopted by an organisation to further create value to one or more actors in a service network (Patrício et al., 2018).

In the following sections, this paper is organised as follows: we present the related work, which focuses on (a) the organisational challenge of adopting SD in organisations, (b) the current state of service innovation and SD literature, and (c) the concept of the Zone of Proximal

Development (Cole, 1985), which constitutes our analytical lens. Then follows a description of our methodology. The paper proceeds to our analysis and discussions, which focus on our proposed SD learning activities and their impact at IU. In particular, the analysis investigates how the learning activities transformed into three waves that in different ways brought about organisational and cultural change. Following a discussion, the paper concludes by proposing three lessons learned for future practice that can support SMEs' integration of SD.

The challenge of adopting service design in organisations

In the past decade, SD has developed and established itself as a practice that enables Industry to innovate their services through a human-centred design approach (Miettinen, 2016). The prevalence of positive business cases has caused non-design intensive organisations to invest in initiatives that develop and enhance SD capabilities as a means to drive innovation and trigger organisational change (Brown, 2019; Lima & Sangiorgi, 2018; Malmberg, 2017; Sangiorgi & Prendiville, 2017). This tendency originates from a need “to build innovative organisations and organisations that inherently hold capacities for continuous improvement and development work” (Wetter-Edman & Malmberg, 2016, p. 516). However, this is easier said than done. Despite this growing interest, Holmlid & Malmberg (2018) find that few studies have been published on organisations' *successful* adoption of SD. They identify that it is a barrier for many organisations to disseminate design practices within their organisation, and thus develop a sustainable design culture. They argue that although individual members of an organisation participate in design-enhancing and capability-building initiatives, many of these projects do not diffuse SD knowledge or practice to other projects or additional members of the organisation (Holmlid & Malmberg, 2018). This means that while SD has proven to be a useful way for organisations in many different industries to approach innovation, they are struggling to expand and sustain their design capabilities.

There is a growing body of research that studies organisations' introduction to and application of SD as an approach to innovation. These studies investigate both public and private organisations that have engaged in SD projects to address various issues. The areas of application range from innovating service offerings in the insurance and

escalator industries (Miettinen, 2016; Polaine et al., 2013) to improvements of policymaking and healthcare (Bailey & Lloyd, 2016; Bailey, 2012). More recent evidence (Kurtmollaiev et al., 2018) shows that SD can be adopted successfully in order to improve an organisation's innovation capabilities. In their study of a large service organisation, Kurtmollaiev et al. (2018) find that top management can overcome the challenges of adopting SD in the organisation "by encouraging the creation of a service design based corporate language, by re-aligning KPIs with service design principles and objectives, and by providing room for experimentation" (ibid. p. 71). Other studies of large organisations' adoption of SD support these findings (Madden, 2017; Miettinen, 2016). However, little is known about how SMEs' can successfully adopt SD as an approach to build inherent capabilities for continuous improvement and innovation work. This paper seeks to address this research gap by providing in-depth insights into the process of adopting SD in a medium-sized, service organisation.

The (missing) link between service innovation and service design

Service innovation and SD intuitively seem to be interconnected topics. However, it has been demonstrated that literature within these two research areas are still scattered and lacks integration (Patrício et al., 2018). Studies have emphasised that service innovation is a priority in both service research and practice, due to the growing service economy, technological developments and increased globalization which challenges organisations' competitiveness (Ostrom et al., 2015; Patrício et al., 2018). Recent literature reviews have found that there are many different understandings and definitions of service innovation, which prevent knowledge development in the field (Snyder et al., 2016; Witell et al., 2016). In parallel, similar calls have been made to gain a better understanding of the service concept in order to advance knowledge of SD (Ostrom et al., 2015). From a research perspective, the gap between service innovation and SD is problematic because knowledge from both fields should be combined to develop the current discourse more holistically to establish the research domains further (Antons & Breidbach, 2018). While it is not the overall aim of this paper, this study contributes to strengthening the link between service innovation and SD research, by developing an understanding of how SD can support service innovation in SMEs.

The zone of proximal development as an analytical lens

This paper takes a socio-cultural perspective to discuss how SMEs can initiate learning activities that help to overcome the challenges of integrating SD as an approach to service innovation. In line with Holmlid & Malmberg (2018), the paper makes use of the concept of the Zone of Proximal Development (ZPD)(Cole, 1985) as an analytical lens to understand how members of an organisation develop knowledge through participation in (practical) learning activities. The notion of the ZPD can be defined as the space between what a learner can do without help and where the learner needs support (Cole, 1985). In other words, the ZPD constitutes the edge where a learner (e.g. an organisational member) can succeed only with guidance from a mentor (e.g. a designer) or in collaboration with more capable peers (e.g. other organisational members with broader knowledge and skillset). These forms of mentoring are termed "scaffolding", which suggests flexible and temporary support that is enacted until the learning task is accomplished. At this point, the learner's ZPD has evolved, and scaffolding is moved to the edge of the now expanded ZPD (Cole, 1985). The underlying assumption behind the ZPD is that the development and instruction are socially embedded, which means that in order to understand these aspects it is necessary to analyse the context of the learning situation and its social relations. Thus, the notion of ZPD also sheds light on the practice aspect in line with our understanding of SD. By considering the SD micro cases and surrounding activities at IU as learning activities, it is possible to analyse in which situations individual organisational members reached their ZPD and further, how adaption of SD tools and methods enabled them to overcome this challenge and thereby expand their ZPD.

Method

The study presented in this paper took place at IU. The research is part of a larger, 3-year action research project between the university and IU. We understand action research as a methodology, which implies that the research aims to induce change and improvement of certain aspects of the target research domain (Robson, 2002; Stringer, 2013). The overall project is comprised of three action research interventions. This study

originates from the second intervention, which intended to build SD capabilities within the organisation as a way to address and advance service innovation.

The data collection happened over the course of 17 months (February 2018 – July 2019). During this period, the first and second authors spent 2-3 days a week at the case organisation, where they worked as an Industrial PhD student and part-time student worker respectively. Both authors were familiar with the case organisation and trained in SD. This therefore created, what Holmlid & Malmberg (2018) describe as a rare setup in which the designers are also a part of the organisation where SD is being integrated. However, in this case, the authors were not hired as service designers per se, but rather as internal "motivators for SD". The authors' position allowed them to follow organisational processes from the inside, making continuous observations in situ, having formal and informal conversations with members of the organisation. Also, the overall frame of the Industrial PhD project provided a space for exploring and experimenting with the application of SD in this organisational context.

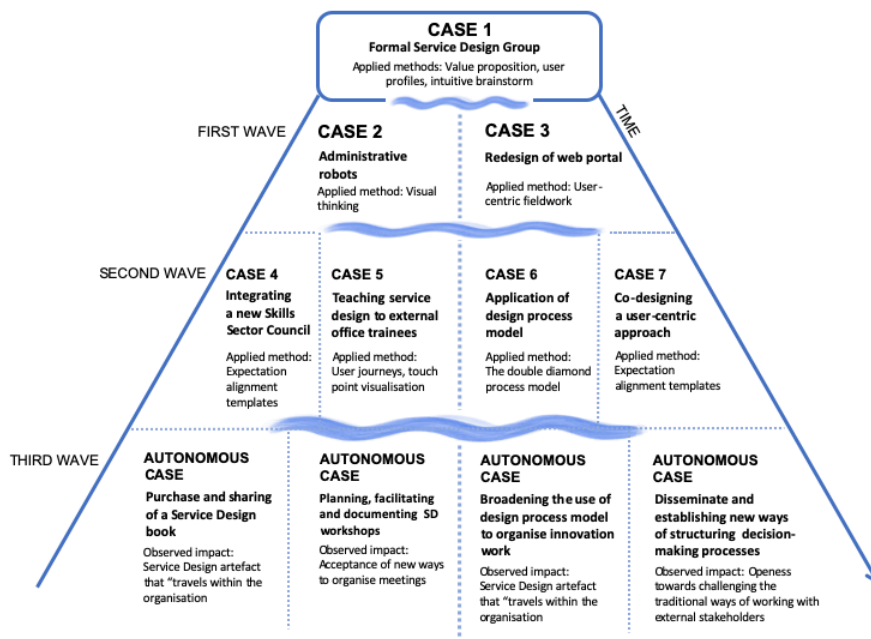


Figure 1. The evolution of SD micro cases at IU

SD was initiated in at IU through a proposal to establish an SD group (which will be explained in more detail in the Findings section). This proposal transformed into seven SD micro cases (see Figure 1). The two first cases were selected by the authors based on (1) the perceived scope

of the individual case, preferably as small as possible and (2) projects that were ongoing and at a nascent stage or planned to begin within the data collection period. Throughout the seven micro cases, the authors instructed 14 different learning activities, which included two customized SD compendiums, three 'miniature editions' (to offer organisational members short, condensed introductions to SD and with emphasis on specific elements or methods) and seven workshops, which each lasted 1-3 hours. During the workshops, the authors introduced the double diamond process model (UK Design Council, 2019), value propositions, empathy maps, user profiles, and ad-libs (Osterwalder et al., 2014), as well as intuitive brainstorming (IDEO, 2015). Visualisation tools such as user journeys (Kalbach, 2016) and service blueprints (Bitner et al., 2008) were also introduced. As a way to introduce these tools and methods, 13 templates were appropriated or created to guide the practical learning activities. We documented the process by making audio or video recording of the workshops, collecting the workshop outputs, conducting 12 minutes, and taking 172 fieldnotes to capture informal chats, follow-ups, observations and reflections. We developed a shared system for precise and consistent record keeping, to ensure transparency and verifiability of data collected (Perecman & Curran, 2006). We emphasized a critically-reflective practice, which closely related itself to the idea of learning from experience. This practice helped us to transform observations and reflections into subsequent actions, and we considered ourselves active participants in the organisational learning situations (Thompson & Pascal, 2012).

Our data analysis occurred in two main steps. First, we processed the data by categorizing the seven micro cases and detecting patterns by sorting the data based on twelve different case characteristics (e.g. the aim of the micro case, who and how many people were involved, and which methods and tools were introduced in each case). Based on this initial analysis, we identified 14 learning activities across the seven micro cases. We define a learning activity as actions that involve introduction to or collaborative use of SD tools and methods. An example of a learning activity is an SD workshop with management (this workshop is explained in more detail in the next section). By analysing these 14 learning activities resulted in the identification of 36 successful learning experiences, where organisational members expressed increased understanding or appreciation of SD. Thanks to the scope of the paper, we highlight four successful learning experiences to exemplify our analytical findings, which we present in the next section.

Findings

When trying to change cultural practices in an organisation, one can ‘make waves’ by challenging the status quo and initiate movements. In this section, we present our findings as three waves, which show how the developed SD learning activities built sustainable design capabilities within IU. First, we elaborate on our initial approach to integrate SD in the organisation and explain why this did not work out as planned. Then, we describe how our approach transformed into three waves of SD micro cases, which over time fostered an SD sustainable culture at IU.

Making waves: Initiating service design as an approach to innovation

We feel it necessary to share our *adapted approach* to integrating SD at IU because this adaptation became a key catalyst to affect the organizational culture. We experienced this during the negotiation of what “form” SD should take within IU. A formalized group was not considered meaningful, as it would cause too big of a commitment and an additional load for a few selected employees. The learning gained from accepting a decentralized and informal approach to embedding SD as an approach to innovation was found in the fluidity of the approach. In this way, we could, in the context of an SME, induce SD with a perception of less being at stake (especially in terms of committed resources), while reaching broader within the organization by exemplifying how SD could be contextualized to any given project and any given practice. We elaborate on this learning in the following paragraphs.

We initiated the study by proposing to establish a formalised SD team as a means to anchor and build SD capabilities within IU. This initiative was inspired by previous studies, which have reported on the use of internal resources as a beneficial way to anchor SD in an organisational setting (Lima & Sangiorgi, 2018). Moreover, establishing specialised teams was the most commonly-used approach in IU to create cross-organisational collaboration to address overall issues. We proposed that this internal and cross-departmental team would receive a crash-course in SD, allowing them to act as ambassadors with SD knowledge and practice. The proposal was that this “task force” should support other teams in the organisation by making use of SD tools and methods to address development work. The initiative was presented at a meeting with IU’s management team. Despite our efforts to explain how this approach to SD could benefit the organisation, the six managers were reluctant and expressed concerns about their lack of resources. Also, one manager

explained, "it is difficult to agree to this proposal, when you do not know what you are buying into" (manager, SD workshop, 20.09.2018). In this way, we identified a need to educate the managers about SD and showcase the use of SD through practice before they were able to decide whether to settle with a formalized SD team or not.

To increase their knowledge of SD, we designed a learning activity constituted a customized compendium with relevant resources, which took into account that the management team had little or no knowledge about SD. This aimed to function as a joint knowledge base. On this basis, the authors organised and facilitated an SD workshop, which took its point of departure in a project that was on the manager's agenda but had not yet been realised, due to limited resources. The project had the goal of developing an internal 'academy' to support the on-boarding process of new education consultants. The reason for making use of this project was to show the benefits of SD tools and methods through a use case that would simultaneously help managers to progress with a stagnant project. In line with previous studies, we found that practising SD helped the management team to comprehend what SD is and how it could potentially help the organisation to become more innovative (Wetter-Edman & Malmberg, 2016). Making use of a concrete project as a way to mediate how SD can support service innovation helped the management to understand and internalise the benefits of SD. In this way, we found that contextualising SD is important. Working with SD tools and methods close to a relevant, concrete project was perceived very positively by the management team.

Despite the manager's positive experiences of using SD as an approach to development work, the decision about whether to establish an SD group was postponed. In the end, the management team proposed an alternative, which caused our approach to change. The initial idea of a formalised team transformed into decentralised "SD micro cases", which required less commitment and allocating of resources from a management perspective. This shift is central as it changed the perception of drawing (even harder) on existing resources, to allocating additional resources (the researchers) to current projects. The decentralized micro cases aimed to incorporate SD in upcoming and ongoing development projects across the organisation. It became visible that there was a need to adapt the overall approach to the integration of SD. Our attempt to adopt formal structures did not work. Instead, we found that it was crucial to adapt our approach to account for the available resources, the current (lack of) design capabilities at IU and the context of the organisation. This opened our

eyes to the everyday practices as well as the cultural and social context of the organisation. In the following, we describe how our new approach manifested as three waves of SD micro cases and elaborate on the impact of these waves.

The first wave of service design micro cases

The first wave exemplifies how it is possible to reinforce an emerging design culture by supporting the struggle experienced by employees, by approaching their daily practices in new ways. To overcome this struggle, employees need to be mentally prepared, for instance, through a "need to know" object, which can encourage them to go through the struggle. By ensuring alignment of expectations in a learning group, the learning environment is supportive and can stimulate collective, local learning experiences. By doing this, we learned that it is the motivation and positive experience of a ZPD expansion that feeds the "wave-making processes". We will elaborate on this learning here.

The first wave constituted two of the initially-selected micro cases that were proposed by the management team. To illustrate this wave, we elaborate on one of the cases (2nd SD initiative, Figure 1), which focused on the exploration of possibilities for implementing administrative robots at IU. In this case, a project group aimed to identify potential work procedures that would benefit from automation. The group, which included two IT consultants and two members of the administrative department, were struggling with organising the identification and prioritization of the work procedures that potentially could be automated. As a way to incorporate SD tools and methods in this project, the authors suggested making use of visual thinking (Brown, 2019) their next project meeting. We proposed that they should visualise the processes in a manner inspired by "Customer Journey Mapping" (Stickdorn & Schneider, 2011). This is a well-known SD technique used to describe the service recipients as they operate and interact with touchpoints and service interfaces (Blomberg & Darrah, 2015). The project group agreed to approach the meeting in this way, which was new and different for all of them. Prior to the learning activity, the authors prepared a short document that explained what SD is and briefly introduced how visualisation tools can be used. We took into account that the project group had limited knowledge about SD and had different professions, and thus adjusted the document accordingly, in order to prepare the participants mentally before making use of these new methods. As such, the document constituted the group's shared "need to know" object, which helped to align their expectations. For instance, when

employees are motivated to make an effort to approach a meeting situation differently, they engage in a struggle that goes beyond current cultural practices (in this context what it means to “have a meeting”). The moment in which this struggle immediately occurs can be described as the ZPD. This became visible during the meeting where one of the IT consultants was challenged, attempting to visualize a process on the whiteboard. He stated: "I do not know how to draw this, because I do not know this part of the process very well" (Meeting participant, 15.10.2018). In this situation, the authors acted as mentors by suggesting that the IT consultant could draw a question mark (using signs) to express that there are steps in the process that need further investigation. In this way, the IT consultant and the other group members extended their understanding of how they could make use of visual thinking in this context. For instance, one of the participants said "drawing the processes shows how many steps there are in each work procedure - how complex it is. It was good that you [the authors] suggested that we draw the processes" (Meeting participant, 15.10.2018). Thus, by incorporating an SD learning activity as a part of a regular meeting allowed the participants to expand their ZPD. Moreover, by suggesting the incorporation of SD elements in this way made the organisational members then regarded SD as a “generous offering” rather than a “bureaucratic burden”, which leaves a positive impression of going through the struggle. These observations were reinforced when one of the members of the project group showed how she had developed the visualisations from the meeting. She did so by highlighting where value was created throughout their operational processes. This exemplifies the emerging interest in further exploration of the new tools and methods that occurred during this first wave. The group’s knowledge about and positive experience with visual thinking was shared at the following “IU meeting” (a monthly meeting where management, departments, and employees share updates on projects and insightful experiences). We found that when learners shared their positive learning experiences with their colleagues, they engaged in “wave-making processes” which made others curious to learn and expand their ZPD as well. They implicitly passed on the supportive environment they experienced themselves, by assuring others new to SD, that it is “safe” to welcome these new practices.

The second wave of service design micro cases

The first micro cases gave rise to an increased curiosity for SD thinking and induced the organic growth of a new wave, constituting four additional micro cases. These micro cases differed from the first wave because

initially, they were put forward by organisational members rather than the authors or the management group. Secondly, they were put forward by members that all had been involved in one of the first micro cases from the first wave (see figure 2 below). The four identified micro cases all had a different focus and objectives (see micro case 4-7 in figure 1), but all grew out of unforeseen changes or struggles experienced in daily procedures. Based on those changes or struggles, SD became an approach to gain a new perspective and a way forward. In the following, we elaborate on micro case 6 to illustrate the impact of the learning activities. This case generated learning in terms of stressing the importance of intentionally designing for repetitive participation of organizational members as well as a collaborative adaptation of methods and tools to ease the integration of new practices.

Micro case 6 constituted an SD initiative which aimed to understand how the inclusion of a design process model might support education consultants' wish to create room for and enhance innovation work when collaborating with the appointed sector skills council. In this case, the structuring of the sector skills council had been rearranged, which offered a challenge for the consultants in terms of a mismatch of expectations to innovation processes, and the pace of concrete results being presented. The micro case was encouraged by a department manager who had questioned whether the education consultants might be able to make use of an SD process model (UK Design Council, 2019) to (re)structure innovation work and redefine what was considered a result in the different phases of the innovation process. The department manager was inspired and got the idea from the SD compendium that the management team received prior to the initial SD workshop before the micro cases were initiated. However, the manager did not know how to apply the model in the context of an education consultant's everyday work practices and collaboration with the sector skill councils. Working together, the authors and two education consultants adapted the model to function in the context of their development work, which meant including a timeline to assure external committee members that the development work would progress, while at the same time creating space for education consultants' creative problem solving and experimentation. These collaborative learning activities had a dual outcome: education consultants developed an understanding of SD and further expanded their knowledge by adapting the model together with the authors, who acted as mentors. The authors also gained a better understanding of how SD tools and methods could be adapted to the context of IU and its network of stakeholders and collaborators. This contextual understanding is vital for cultural changes,

as it enables appropriation. The appropriation is a way to work around the challenge of integrating SD as an approach to service innovation. When the new ways of working fit with the daily context, it is easier to overcome the challenges of doing something new. When evaluating the adapted tool, one of the consultants stated that “because the tool was already adapted to them [external stakeholders] and their preferences [being a set timeframe] they thought it would be a useful way to address innovation work” (Education consultant, 08.04.2019). This supports our finding that by adapting tools and methods in collaboration with those that should be using them, SD can greatly benefit an organisation. This informal way of using SD and appropriating it is a way to include it in daily practices more efficiently. Another noteworthy observation is that all four emerging micro cases all included members of the organization that to a certain extent, had been involved in one of the first micro cases, as mentioned above. This suggests that a decentralised approach to the integration of SD in SMEs is a good way to avoid "one-off projects", where the integration of SD will remain only on an introductory level. By designing for repetition, it is possible to disseminate knowledge and experience about SD across the organisation (Holmlid & Malmberg, 2018).

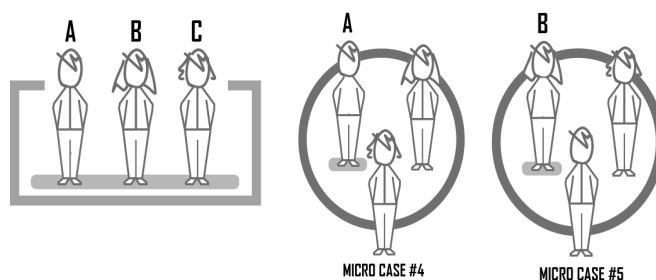


Figure 2. Dissemination of SD knowledge. SD micro cases support organisational members' repetitive participation in different SD learning activities.

The third wave: the impact of the service design micro cases

The third wave is a symbol of how cultural changes manifested themselves at IU. This wave emerged without the involvement of the authors and new autonomous SD initiatives were observed, ranging from small initiatives such as an SD artefact circulating within the organisation, to more comprehensive changes, where a department were all required to adopt the SD process model as its their standard approach to innovation work. Those autonomous cases demonstrate how local learning experiences can evolve into more substantial structural changes, affecting the organisation and its culture at a broader level.

Over time, we observed how the micro cases from the first and second wave surprisingly developed and generated new autonomous initiatives that were appropriated and incorporated in projects independently, without mentoring or guidance from the authors (See 3rd wave, figure 1). One example is based on observations of an administrative team, where several employees had participated in micro case 2. On their initiative, this team chose to expand their nascent SD knowledge and practice by buying and sharing an SD book. A team member shared that the aim was to develop their joint knowledge base to develop their joint knowledge base and discuss how they could make use of SD tools and methods to a greater extent as a way to innovate their internal procedures. Based on increased curiosity, the SD book started to travel from department to department, symbolizing the increased interest in new design capabilities that was starting to show locally in different departments. Another example of an autonomous SD initiative builds upon our previous example of the education consultants who introduced the adapted SD process model in their sector skill council. They explained how their positive experiences of changing their development practices had created curiosity and awareness of SD within their department. Their dissemination of knowledge and use of the adapted model later resulted in an executive decision, which states that all education consultants in the department should make use of this model as a tool to enhance innovation work in the skills sector councils. These autonomous SD initiatives support the findings stated above and suggest that this decentralised and informal approach is a valuable way for SMEs to overcome the challenges of successfully integrating SD as an approach to innovation, despite their inability to commit too many resources in doing so. Based on our understanding of design culture, these autonomous SD initiatives are a clear indication of a change in the dominant culture within the organisation. In other words, our study finds that our efforts to integrate SD through scaffolding and a range of learning activities have contributed to an emerging design culture at IU.

Discussion

So far, this paper has presented findings showing how SD capabilities can be built through learning activities with appropriated SD tools and methods to foster a sustainable design culture within a medium-sized, non-design-intensive service organisation. The paper has also shown that a decentralised and informal approach to adopting SD is useful in this

organisational context, as it offers a fluidity that helps SD to expand its impact with fewer resources allocated. With the designed and tested set of learning activities, the authors provide preliminary suggestions to how organisations can address the challenge of integrating SD as an approach to service innovation, and how to sustain this approach replacing it with previous practices in non-design intensive SMEs.

When designing learning activities as a way to build SD capabilities in an organisational context, it is essential to recognise that while the majority of development work emerges from collaborative practices, the ZPD is different for each member of the organisation. This means it should not be expected that "generic" introduction to SD tools and methods will result in a growing design culture from within the organisation. This finding reflects that of Holmlid & Malmberg (2018) who also found that knowledge about SD "is not enough to drive the aspired transformation and integration" (ibid. p. 46). Moreover, Blomberg & Darrah stress "no matter how well we understand the practices of a community, it is dangerous to assume that the objects of our designing can simply be inserted in those practices" (2015, p. 52). This emphasises the importance of understanding how SD tools and methods need to be appropriated for a specific organisational context, in order for them to be embedded in everyday practice and thereby drive organisational change and prompt service innovation. In our case, it was initially the authors that proposed suggestions for the appropriation of the tools and methods. However, this changed during the 2nd and 3rd wave of the SD initiatives, the employees involved began to act more as capable peers and, in this way, disseminated knowledge to additional members of the organisation. This transformation occurred thanks to the organisational members that participated in more than one SD initiative (figure 2). Based on these results, we suggest designing for repetition (e.g. plan for employees' repeated involvement in SD initiatives) as a way to scaffold the organisational members. At the same time, they learn to adapt and apply SD tools and methods in their everyday work practices.

Another way to support the integration of SD is by developing a joint, contextualised knowledge base that supports the temporality of the ZPD. Despite the individual nature of the ZPD, there are times when a group needs to coincide. These moments can be promoted when learners are provided with explicit material about a relevant topic. During the initial phase of this study, the management team needed to develop a mutual understanding of the value of SD in order to decide on whether to establish a formalised SD group or not. To support this decision-making

process, the authors created a compendium on “SD at X” that provided the managers with explicit and carefully selected resources. The compendium became a central object, which guided the group to discover their interpretations and expressions of the tools and methods related to their organisation. This shows it is highly relevant to question what and how much is necessary for organisational members to know in order to embed the knowledge in their everyday practice. In this way, the "need to know" object became a structure, a guideline for how to make sense of SD. However, such a structure should only be considered temporary. Once an individual learner or group has grasped the new knowledge, it is necessary to update or even remove the structure in order to create a new scaffold at the given time and space. An example of how this temporality manifested itself, in this case, is the evolution of the short document to a shared book (see micro case 2, figure 1). This enabled the department to expand their ZPD on their initiative. This further exemplifies how the process of adapting SD tools and methods at a local level implies a reflective process among the organisational members, which can lead to the development of a local learning process. In our case, the various learning activities, which were initiated during the first and second wave of SD micro cases, supported the development of such local learning processes, fostering the emergence of a sustainable design culture at IU.

Before presenting our conclusions, it is interesting to come back to our failed attempt to integrate SD at IU through a formalised and centralised structure. The need to change from a formalised to a decentralised approach suggests that it might be necessary for SMEs to adopt SD differently compared to large organisations (Kurtmollaiev et al., 2018). It was not until we addressed the integration of SD as an intrinsic part of everyday practice that we observed organisational transformation and the emergence of a design culture at IU. Thus, it is crucial to acknowledge that service designing should include participation in a social context and therefore, it is necessary to use tools and methods which are appropriate for this scenario. This helps to embed local conventions in the emerging SD practices that, in our case, fostered a sustainable SD culture.

Conclusion

This paper demonstrates that integrating SD into organisations as an approach to advance service innovation is not merely a question of providing an SD toolbox. On the contrary, it is crucial to adopt an

understanding of SD as ambiguous, diffuse and as an intrinsic part of everyday practice. This allows SMEs to divert from the need to establish end-to-end SD projects or specialised SD teams, which may be too resource-demanding for a smaller organisation. Instead, taking a decentralised and informal approach to the integration of SD enables the members of the organisation to apply relevant tools and methods as a part of their work practices step by step. Our study shows that this approach develops design capabilities, and over time fosters a sustainable SD culture within the organisation. We propose three lessons learned for practice that can help non-design intensive SMEs to integrate SD as an approach to service innovation successfully. First, it is essential to actively involve organizational members in the appropriation of service design tools and methods as this helps to embed local conventions in the emerging service design practices. Second, design for repetition. This means that members of the organization are involved in several service design initiatives. This approach can then function as a way to scaffold the organisational members, whilst they simultaneously learn to adapt and apply SD tools and methods. Finally, we propose the development of a common, contextualized knowledge to support the temporality of the employees' zone of proximal development. Overall, this study contributes to our understanding of how SMEs can appropriate SD tools and methods to their cultural practices in order to build sustainable SD culture.

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