

Agile Methodologies as Drivers of Polycentric Digital Transformation

Short Paper

Introduction

Following Baiyere et al. (2020, p. 253) “digital transformation captures the metamorphosis of a company towards creating and delivering digital value propositions and simultaneously leveraging digital technologies in operational processes”. As implied in this definition, a substantial part of the literature understands digital transformation to be the result of developing new products and services that are digital. This process is often seen as a top-down one, aligned with strategic interests (Hanelt et al. 2021). In creating new digital products and services, traditional companies can mimic their digital-born competitors and adopt similar operational practices (Bossert 2016). Indeed, digital technologies have been argued to change the way work is done, including how, when, or where work is done (Bailey et al. 2019, p. 642), transforming “the form of organizing” (Pentland et al. 2022, p. 194).

The question that interests us in this paper is the opposite, specifically, whether the form of organizing can contribute towards transforming a company into a more digital one. This question is important because if adopting certain ways of working can help organizations become more digital, they offer an alternative path for traditional organizations to keep up with their digital-born counterparts and the increased digitalization of society.

In particular, we analyze agile methodologies as a form of organizing. Agile methodologies rely on a series of principles outlined in the Agile Manifesto (Beck et al. 2001) aimed at delivering software better attuned to clients’ expectations. Over time, these principles have given rise to different practices intended to create customer value (e.g., clients who are actively engaged in development processes, self-organizing teams which boost creativity, ongoing feedback and reflexivity loops) (Dingsøyr et al. 2012). An important reason for the advent and promotion of agile methodologies was a recurrent failure to comprehend and develop system requirements adequately (Maruping et al. 2009), which have been an important cause of project failure (Standish Group 1994).

Historically, agile methodologies have mostly been seen as a way to develop software. As a result, they have been studied at the project unit of analysis, changing the ways in which small teams produce digital technologies (Dybå and Dingsøyr 2008). As a consequence, the role that agile methodologies might play in large-scale digital transformation has been under-researched (Batra et al. 2017; Fuchs and Hess 2018).

This paper presents the first phase of a three-year study into the role of agile methodologies in the digital transformation process of a large bank. It seeks to answer the question *how can agile methodologies contribute to digital transformation?* We analyze and discuss the first wave of interviews, introduce the concept of polycentric digital transformation, and outline the next steps in the research.

Background

Digital transformation is often seen as a strategic top-down process where the adoption of new technology induces organizational change (Baptista et al. 2020; Klein and Watson-Manheim 2021; Vial 2019). For the largest part of the literature, it involves organizational changes that are prompted and influenced by the growing presence of digital technologies (Hanelt et al. 2021). From this perspective, technological change drives organizations into transforming their identities and activities to ultimately redefine their value proposition (Wessel et al. 2021), propose new products and processes, and enter new markets (Lanzolla et al. 2020). For example, Sia et al. (2016) describe how an Asian bank deployed a digital transformation strategy to create product and service innovation and drive changes in leadership and operations.

This literature has explored how digital transformation impacts organizations’ internal processes and design, altering the ways in which tasks are defined, divided, allocated and integrated, in order to create value (Kretschmer and Khashabi 2020). Indeed, it seems that ways of organizing, including agile

organizational structures have mainly been considered as outcomes of digital transformation. For instance, in a recent literature review, Hanelt et al. (2021, p. 1167) argue that as a result of digital transformation, “organizations develop *permeable, agile organizational structures* [original emphasis], and in doing so become agile, adaptable and boundaryless”. It is digitalization that transforms how work is done in organizations not the other way around. The success of digital transformation thus depends largely on two factors. First, digital technology’s ability to transform business has raised calls to see the IT function as an essential part of an organization’s business strategy (Bharadwaj et al. 2013). Second, that such technology is capable of—and needs to—change the organization’s routines to be successful (Volberda et al. 2021).

However, seeing ways of organizing only as an outcome, may be limiting organizations’ capacity to achieve digital transformation. An important stream of literature in organization studies has emphasized the role of routines as “*repeated patterns of behavior that are bound by rules and customs and that do not change very much from one iteration to another*” (Feldman 2000, p. 611), and understood as resources that can create deep change across an organization (Wiedner et al. 2017). Indeed, the study of routines has shown the importance of social practices in the development of transformation processes (Orlikowski 1996). For instance, Cohendet and Simon (2016) show that an active reconfiguration of routines enabled a video game studio to innovate and create better digital products. From this perspective, digital transformation could also be the result of the mundane, “repeatabe patterns of interdependent behaviours” (Bresman 2013, p. 35).

In particular, we focus on agile methodologies as a transformative way of organizing. Agile methodologies strive to deliver software solutions that are better tailored to clients’ needs. From a practical standpoint, they involve the design, implementation, and analysis of the software in short-repetitive cycles (Berente and Lyytinen 2007). Working in an agile mode alters routines by iteratively repeating a smaller number of activities (Thummadi and Lyytinen 2020). Agility is also associated with a closer involvement of clients in development processes or the reliance on self-organized teams and constant feedback, which invite ongoing reflexivity (Dingsøyr et al. 2012). While agile methods were originally considered as a way of organizing teams and projects, it is growingly seen affecting the organization at large. DevOps, for example, require the implementation of its agile practices at the organizational level, no longer being contained to projects (Kim et al. 2016).

We follow Fuchs and Hess (2018) in their challenge of agile methods as solely an outcome of digital transformation processes rather than a driver for it. Can traditional firms become more digital through the transformation of their work processes into agile ones? If so, how can agility spark and boost digital transformation? We explore these questions through the case of a large international bank.

Methodology

Our study analyses the case of a major international bank, offering global financial services and solutions. In 2017, the bank launched its innovation hub, a modern accelerator with the stated aims of developing new services and business lines, fostering new skills, leveraging collective intelligence, and driving strategic engagement, all in a hybrid *phygital* space. The hub was intended to drive the bank’s digital transformation strategy.

The projects hosted by the hub are typically composed of at least a project owner, a scrum master (who, as of 2021, were generally external to the bank due to a lack of trained professionals within the bank), a user experience designer, and several coders. These teams are called squads and constitute the main organizational structures within the hub but are temporary. They are formed to launch a project and either dismantled after six months with internal employees going back to their original teams within the bank or transformed into a permanent venture of the bank, but no longer part of the hub. The squads have embraced agile methodologies as their way of working. In addition, the hub has permanent employees whose role is to address the needs of the squads and secure the hubs’ operations.

Data collection

The data collection was planned as three waves of interviews to be conducted in June 2021, June 2022 and June 2023 to follow the deployment of agile methodologies and interview participants while working in the hub’s squads but also after returning to their original teams. This research in progress paper reports on 16

interviews conducted in June 2021. Out of the 16 participants, 12 were members of the hub: eight worked in different projects (either as product owners or squad members) and four worked for the hub itself. Four interviewees worked for different departments of the bank but were identified by the hub employees as important actors for the deployment of agile methodologies within the bank at large. The first interviewees were either suggested to us by the hub's leadership or identified and contacted through their LinkedIn profiles. Subsequently, each participant suggested two or three colleagues we could contact for further interviews.

Interviews were semi-structured and organized around four main topics: the background of the person and their role in or connection to the hub, the role of the hub within the bank, understanding of specific projects of the hub, and work dynamics within the hub. The interview protocol evolved in line with emerging analytical themes. For instance, while agility or digital transformation were not mentioned in the questions originally, they quickly became the core of the study. They lasted between 30 and 75 minutes and were all conducted online either in English or in French.

Data analysis

The data were analyzed following an inductive logic. After a first read through all the transcripts, we used open codes to start making sense of the data and revised and refined such codes through iterative reads and discussions between the authors. We then organized the codes into categories and themes explaining larger portions of data.

Our original intention when starting data collection had been to understand the role of external contributors (non-employees of the bank) present in the hub, to the teams' work dynamics and their influence on the development of information systems. Quickly, we realized that for the interviewees, what was important in the way they worked was the deployment and understanding of agile methodologies. Moreover, the topics of agile methodologies and digital transformation emerged as key themes even if questions in our original interview protocol did not contain questions related to them. The four final themes emerging from the data are agile methodologies, polycentric and viral digital transformation, operationalizing digital transformation, and the role of the hub. These themes are closely connected. For instance, a recurring topic in the interviews was the role of agile methodologies in transforming the bank towards a more digital future.

Analysis

The data shows the hub plays a strategic role in the digital transformation process of the bank, with its more visible objective being to generate innovation (e.g., new services and business models relying on the development of new technology). The hub hosts projects identified as potential business opportunities for the bank and helps launching them rapidly (the time span of most projects is six months).

At the beginning it [the hub] was an incubator for entrepreneurs, so the idea was to help people who had an idea find a sponsor, and then develop, well, create their product in less than six months. So we provided them with a technical platform, with coaching, with various methods to facilitate their work. We also helped them recruit the team that would help them create the product.

Participant 2. Hub manager

On the business part, the idea, from my understanding [of the hub] is to accelerate internal projects. Actually, whatever the stage of the project is, it can be early-stage projects, like us, that want to grow, (...) and could have faced some difficulties, if it was directly operated within the corporate but to put it in an external context, it may accelerate it.

Participant 7. Squad member.

In order to reach this objective, all interviewees underlined how the hub relies on agile methodologies because of their malleability and capacity to support business ventures. The hub trains all project participants (squad members) in these methodologies, which are heavily present in discourses connected to work within the hub.

Okay, because agile is good for incubators. I would say culturally, to let people understand that you can work differently. So that's a different I mean, you know, in a bank, in the past few years, I've seen both. I've seen IT saying that they have a program to deploy agile into the company and I have seen The Bank's hub actually doing agile, not deploying, but actually doing, that is a different world. It's doing agile on real projects.

Participant 12. Product owner (previously COO of digital transformation)

As noted by participant 12, instead of telling, the hub shows how such methodologies can be deployed. However, in the interviews, agile methodologies emerge as more than a way of working. They are described as a “mindset”, a way of understanding work, rather than a mere series of prescribed tools and practices. For instance, participant 6 said:

I feel like part of the people actually don't realise the change of mindset that is necessary. Because what we have seen is that there is actually lots of agile coaches, there is loads of agile coaches everywhere in the world, not only at the bank (...) Most of them are very bad because they just know the methodology. They tell you: “Okay, so you have to do a daily. And a daily meeting has four questions, da da da da.” But they don't go into the meta-conversation, they don't go into, why we are doing it, what can it bring. They just go through a process and so when you have people like this that are deploying agile this is the result you get.

Participant 6. Hub manager

The idea of a new mindset is recurrent and agile methodologies are characterized by interviewees as a means to generate a mind shift amongst the bank's workers who are used to more traditional work dynamics. For instance, participant 2 said:

The mindset is key. We believe that most of the efficiencies that we can have in [the hub] is from this mindset, and trying to be open, curious, and be able to take feedback, and also to give feedback to others.

Participant 2. Hub manager

As noted by this participant, the hub works as a showcase of what work could be if it was done differently. The experience of the method transforms the meaning of “good work” for the employees. However, this mindset transformation is not always straightforward, and several participants described how people around them struggled with it. For example, participant 6 said:

I'm not sure why. What I can tell you is that today I think it would have been very hard to make people realise that it's not only a question of method or IT and that it's not only about doing daily meetings and backlog cleaning that is going to say that you're agile. I think he would have asked people to work on a deeper level that is more intimate maybe because actually this kind of behaviour, when you touch the mindset, it becomes a lot more personal because the mindset you have is usually very linked to the story you have, the way you were raised, what did you do, did you travel a lot, did you not travel a lot or maybe you didn't travel but you were confronted by lots of different people or situations. So, people don't want to go there, they don't want to address the elephant in the room because it's too intimate so they just hang on to methodology because it's simple, it's clean, there is [inaudible] not just follow the rules and then you can say that you're agile.

Participant 6. Hub manager

Another participant said:

Because as well, I was a guy from a big corporate, not really used to all the agile ways of working, which is really...actually, when I arrived, to be totally frank, I thought it was bullshit, these kinds of things. But then the idea was to play the game with the rules of [the hub], the agile rules, and the conclusion is that today, I like it. And even if I have more freedom to choose the way I could

approach the business, we still approach it in an agile way, because it's still very important to listen to your consumers and to test and learn all the different features that you can develop on the platform.

Participant 7. Squad member.

As this account illustrates, the experience of squad members shows that agile methodologies have become ingrained in their way of working, even if many were sceptic about them. In fact, in returning to their original teams, these workers are latently expected to spread the methods they have learned and act as *localized seeds* for digital transformation across a highly traditional organization. Indeed, one of the permanent employees of the hub said:

What we expect from them is to try to spread these methodologies, the agile methodologies within their team.

Participant 3. Hub manager.

In describing her role towards her squad, the co-founder of one the projects explained:

[My role] was as well to spread those methodologies, to take resources, to let them in an accelerated mode, learn, practice, do, and then let them go back to different roles so that they can spread what they have learned.

Participant 6. Product owner

Another participant, having returned to his original team after the six-month incubation period, said:

I would not say that in my entity, the entity where I was working before, I was working in an agile way. I was not. But thanks to [the hub], the goal is also that guys like me, from their experience in [the hub] then can share it with the others within the entity and make the Group work in a more agile way. It can take time.

Participant 7. Former product owner

Although, as noted by this participant, the process can be very lengthy, all these accounts show how the hub works as an experiential device for transformation. Even if they deemed it challenging, interviewees that were outsiders to the hub, underlined the role the hub could take to accelerate digital transformation in this polycentric manner:

I really believe that they [the hub] can help accelerate the digital transformation of the group. But they still have to work on the articulation, the way they are connected to other business and other offers within the group, because it's really hard to put an innovation dedicated environment into big financial groups as we are.

Participant 15. Bank HR manager (external to the hub)

This was described as revolutionary by participants who had seen digital transformation and agile methods being deployed through technology in the past without actually reaching the business.

Then when I discuss with people internally in my role of COO of digital transformation, they said: "Why don't we deploy it and go this way and so on." And they told me: "this is going too far, what we are doing is already deployed, agile in IT, I do not see it for the business". And for me it was totally nonsense because if you want agile to work, you need the business to sit down with IT and speak the same language, the same methodologies. They have to sit together almost, you need to review the organization because if they both report to different people and have different objectives, it won't work at all. And this is what happened. So they deploy agile into IT, even after that they said: "No, no, don't worry, business is involved." But when I spoke to business guys, they had no clue what this was about. So, I think it was a facade. The IT was thinking, genuinely thinking they were doing agile, but they did not involve business permanently.

Participant 12. Product owner (previously COO of digital transformation)

Overall, our participants' accounts show how the hub is seen as an instrument to speed up digital transformation beyond the traditional role of developing new digital products and services. It is intended to spark a change of mindset and encourage new ways of working, by transforming individual workers into change agents. These individuals can then enact localized transformation that, in being bottom up, are expected to be more flexible and involve less resistance than prior top-down, technology-driven initiatives.

Discussion and next steps

Traditional organizations, such as banks, have struggled to compete in digital environments because they are burdened by highly ingrained information and technology systems and processes (Sia et al. 2016). In this paper, we have presented the preliminary results of a research project that seeks to investigate if agile methodologies as a mode of organizing, can help such established organizations in their digital transformation process.

While the literature tends to consider organizational change as outcomes of digital transformation (Hanelt et al. 2021), our findings suggest that, on the contrary, changing the organization and, in particular, the way work is conducted, can be a driver for digital transformation. However, this type of digital transformation would not be conducted and closely managed by the leadership, taking a top-down strategic approach. Instead, it stems from the initiatives locally taken by individuals, whose business mentality has been changed through the lived experience in the organization's transformation hub. This finding has several potential theoretical implications.

First, it adds to previous work suggesting the key role local actors play in digital transformation processes (Baptista et al. 2021). Second, it underlines that large-scale change can be pursued through small local changes. We bring forth the concept of *Polycentric Digital Transformation* to represent this type of localized and autonomous units of change that end up disseminated throughout the organization. The introduction of agile methodologies that are locally adapted by the workers, can incentivize transformative processes at multiple locations at the same time, showcasing to an increasingly large number of employees and managers the benefits of digital transformation. In continuing this research, we will closely follow these local actors and the ways in which they accompany this change in the long run.

Third, if agility is an outcome and also a driver of digital transformation it is possible that feedback loops exist between the two that have so far not been studied, suggesting the need to investigate how to spark virtuous transformative circles and what sorts of barriers might occur. Further, what qualities of agile are more inductive to digital transformation and how should the organization monitor its progress if it is decentralized?

Finally, we aim to study the role that messiness and imperfection, embodied in agile methodologies, play in fostering digital transformation. Because there is less high-level managerial control over the transformation process, and that key actors have almost complete autonomy to apply agile methodologies learned at the hub, it is likely that different kinds of agile processes are put in place throughout the organization. The question we want to explore is whether the transformation is led by dogmatic application of agile principles and practices or whether and how messiness and imperfection in implementing some form of agile lends itself to processes of digital transformation.

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