



Toward the workplace of the future: How organizations can facilitate digital work

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Abstract The workplace of the future focuses on how and what work is done, not where and when it is done. Thus, organizations increasingly provide new and innovative information technology (IT) to create the workplace of the future by effectively facilitating digital work. However, digital work means more than just using new, innovative IT. Along with increasing flexibility, employees also crave balance and structure when, for instance, it comes to the blurred boundaries between private and business life. Our article investigates how three organizations from diverse domains establish digital work. Based on our empirical results, we identify four major management challenges that organizations need to overcome in order to introduce digital work environments effectively. Further, we identify lessons learned and derive eight recommendations for organizations to facilitate digital work.

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1. Digital work: How and what people do, not where and when they do it

In 2015, the new CEO of Allianz—one of the biggest insurance and asset management companies in the

world—announced a renewal agenda. Under the strategic guideline of Digital by Default, this agenda emphasized the strategic decision to promote digital work. Driven by this strategic direction, Allianz pursues an action plan for successfully facilitating a digital work environment.

1.1. The dawn of the digital work age

Digital work is a new paradigm: it happens anytime and anywhere, in real space or in cyberspace

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(Hanelt, Piccinini, Gregory, Hildebrandt, & Kolbe, 2015; Köffer, 2015). A digital workplace environment is widely acknowledged as an important organizational asset for increasing employee productivity (Köffer, 2015). In today's fast-moving, globalized world, organizations are under pressure to design and provide a digital working environment. At the same time, employees are of the opinion that the amount of time spent on business trips or commuting is too high (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013; Haffke, Kalgovas, & Benlian, 2016). The concept of digital work can help provide more autonomy and flexibility because it enables employees to use digital resources when they manage their tasks and collaborate—regardless of time or place (Colbert, Yee, & George, 2016; Mazmanian, Orlikowski, & Yates, 2013). With the nature of work changing, researchers and practitioners need new approaches to facilitate a digital work environment successfully in organizations.

1.2. Facilitating digital work: More than offering new technology

In the context of digital work, Dery, Sebastian, and van der Meulen (2017) conceptualized three design levers that refer to the introduction of new IT and infrastructure (see Table 1)¹. However, facilitating digital work requires more than only making new IT available (Richter, Heinrich, Stocker, & Schwabe, 2018). Digital work refers to work practices that are being reconfigured via, for example, new IT (Orlikowski, 2016). Disseminating new IT mostly means employees need to make sense of their working habits and embrace the new possibilities that they offer (e.g., Aral, Dellarocas, & Godes, 2013; Bharadwaj et al., 2013; Richter & Riemer, 2013). Although many organizations are already providing more and more IT for digital work, many employees still prefer a regular routine of going to the office every day (Ratti & Claudel, 2016). In addition, an organization's existing ways of working are often at odds with the new options that are possible with new IT (Haag, 2015). Introducing and capitalizing on digital work, therefore, requires a shift in traditional thinking about how organiza-

tions and employees define work. The concept of work being restricted to that which is done from 9–5 at the workplace needs to be replaced by a concept that focuses on the efficient completion of work (Hafermalz, 2016; Handley, McGrath-Champ, & Leung, 2017)—with less attention to the time and place where it happens.

1.3. Investigating how organizations introduce digital work

Our research takes an organizational perspective and investigates the introduction process for new IT to encourage digital work (Cherry, 2015; Orlikowski, 2016). We study how digital work is facilitated in organizations by relying on interviews and observations from three case studies.

We chose Allianz, the City Administration of Lenzburg, and Haufe-umantis as our three case studies because they show contrasting approaches to implementing digital work and showcase a very holistic picture. Our case studies also cover a broad range of diverse organizational characteristics: Allianz Group is a big corporation that operates in the global finance sector, the City Administration of Lenzburg is a small governmental organization, and Haufe-umantis operates in the emerging software industry.

Our work aims to show how digital work can be established in a sustainable way by providing examples and deriving recommendations. In the following sections, we use each of the case studies to emphasize how different types of organizations can successfully implement a digital work environment. Describing the three case studies, we follow the structure of a typical implementation process, which will further help us derive the challenges and solutions when it comes to facilitating digital work:

- *Why?* Various factors drive organizations' motivation to promote digital work.
- *What?* Based on the drivers and motivations, organizations choose new and innovative IT to facilitate digital work.
- *How?* Depending on its type, organizations initiate plans to implement and embed IT. They also plan various dissemination channels and activities not only to convince the employees to use the new IT but also to give them the necessary support.
- *Impact?* Organizations need to track and evaluate the impact of new IT.

¹ For the purpose of this article, we predominantly use the term IT. However, it is important to acknowledge that when introducing digital work, other infrastructure such as office spaces and the corresponding forms of working are interrelated and therefore co-evolve.

In order to ensure a holistic picture of the individual organizational approaches, we interviewed—for each case—employees who have different functions: They range from IT specialists to managers and team members. We conducted an interview study between May and September of 2016. We analyzed further data such as internal documents as well as the data of an employee survey from the Allianz case. [Table 2](#) gives an overview of the three case studies as well as the interviews.

The interviews, which lasted between 45 and 80 minutes each, were conducted both face-to-face and by telephone. The interview guidelines contained questions like:

- How is digital work interpreted in your organization?
- Why is your organization pursuing digital work?
- Which IT are introduced for digital work?
- How is the rollout process and which activities are used to convince the employees to use digital work?
- What impact does the introduction of digital work have?

The interviews were recorded and transcribed confidentially. Following an interpretative case-study approach ([Walsham, 2006](#)), we analyzed and coded the interview data according to the recommendations by [DeCuir-Gunby, Marshall, and McCulloch \(2011\)](#). In the following sections, we use exemplary quotes from the interview transcripts and documents in order to highlight the results of our coding process.

2. Allianz: How does a global corporation implement digital work?

Allianz is one of the biggest insurance and asset management companies worldwide; they provide financial services to more than 76 million customers in nearly 70 countries. Approximately 150,000 employees work in geographically dispersed teams and in different (partly independent) divisions, such as property and casualty insurance, life/health insurance, asset management, and banking. When it comes to promoting new IT for digital work and providing the workplace of the future, Allianz positioned themselves as a pioneering but traditional German organization.

2.1. Motivation: Increasing cross-functional collaboration

In the context of the earlier mentioned renewal agenda ([Allianz, 2015](#)), Allianz aims to promote knowledge exchange and to implement, eventually, an improved organizational knowledge management by eliminating silo thinking and pushing cross-functional collaboration. Hereby, the platform manager emphasizes the motivation to “support easy and networked work” for the employees.

In addition, since its headquarters is in the metropolitan area of Munich, the company faces the challenge of competing for upcoming talents against many other global corporations. The drivers of Allianz’s pursuit of digital work are its attempts to be an attractive employer (e.g., “Attract the best technical talent”) and remaining attractive for the existing internal staff by “strengthening employee engagement.” In this context, the company tries to empower employees by “impressing on each employee its interest, initiatives, and success” (Platform Manager, Allianz). Further, Allianz aims at increasing work flexibility such that employees can adjust to their working environment “flexibly and according to their individual working situation” (Platform Manager, Allianz). Digital work at Allianz was also supposed to impact organizational innovation management by improving product innovation.

2.2. IT and infrastructure: Focus on enterprise social media

Based on the motivational drivers, Allianz supports various new forms of working, such as home office and innovative office concepts (e.g., desk sharing) that encourage teamwork:

Intelligent working environments [. . .] are very flexible: They enable me to switch between project work and a think tank, and I can adjust flexibly and easily to fit my particular needs to perform ever-changing tasks. [. . .] This concept ranges from open areas to small rooms where I can retreat. There are work areas that are more relaxed. For example, I can pick up my laptop and work while sitting on a couch. (Platform Manager, Allianz)

The organization has also implemented a strategy for securely embedding mobile devices in the organization. However, the most significant cornerstone of Allianz’s effort to introduce digital work—which is also our study’s main focus—is an enterprise social media platform named Allianz Connect. The functionalities of this platform aim to achieve the organization’s goals (e.g., encouraging knowl-

Table 1. Three design levers in the context of digital work

	Systems	Social	Space
IT and infrastructure (examples)	<ul style="list-style-type: none"> • Videoconference • Mobile devices 	<ul style="list-style-type: none"> • Enterprise social media 	<ul style="list-style-type: none"> • Open office spaces • Desk sharing
Aim	Enable collaboration anywhere, at any time	Speed up collaborative work and support ideation (forming new ideas)	Support collaboration and create new interpersonal connections

Source: Based on [Dery, Sebastian, and van der Meulen \(2017\)](#)

edge exchanges between employees by enabling and improving digital communication and collaboration). Allianz Connect enables the employees to gather in self-organized digital communities that promote knowledge exchange:

You notice various formats, such as an interest group on blockchain, which was first founded by two IT specialists. Within 4 weeks it generated more than 15,000 views where several experts exchanged their specialist knowledge on the topic—even though this community was not a management initiative. (Platform Manager, Allianz)

This IT instrument can, amongst others, also be used by project communities, in which employees “begin to support their projects by generating a project room on Allianz Connect to work on shared documents and have discussions” (Platform Manager, Allianz). In 2018, Allianz also introduced a mobile app, making Allianz Connect accessible from anywhere in the world.

2.3. Dissemination channels and activities: Gradually involving all employees

The communication team relies on various dissemination channels and activities to promote digital work and encourage its employees to embrace new IT. Since Allianz consists of various divisions that are partly independent from each other and also have

different organizational structures, as well as cultures, Allianz pursued a gradual rollout strategy. In late 2010, it slowly began to investigate the use and usefulness of enterprise social media platforms. In 2012, Allianz began to implement its preliminary projects in identified divisions. In 2015, after the global rollout for all divisions, Allianz “developed a range of training programs [. . .] and ran classic communication campaigns, such as postings in our staff magazine” (Platform Manager, Allianz). It is worth mentioning that it was not only the implementation team that provided training but also the new platform users contributed training material. In other words, “the training programs are partly crowdsourced, which means that the power users provide them” (Platform Manager, Allianz). However, when Allianz Connect was introduced—and due to the malleability of enterprise social media platforms ([Richter & Riemer, 2013](#))—training for Allianz’s enterprise social media platform was not sufficient by itself. Rather, “the employees need to take over the system and figure out their very own use cases” (Platform Manager, Allianz). The communications department, therefore, made an effort to raise awareness for the new enterprise social media platform by circulating success stories that exemplify new use cases.

Additionally, the top management at Allianz regularly answers questions during a Q&A session (i.e., “Ask me anything”), or they blog on the platform, which draws employees into using it: “The COO is very active. He blogs regularly and

Table 2. Overview of case studies

Organization	Industry	Number of Employees	Data
Allianz	Finance	150,000	Longitudinal study with 12 interviews and analysis of internal documents and surveys
City Administration of Lenzburg	Government	140	3 interviews and observations
Haufe-umantis	Consulting & software engineering	150	4 interviews and observations

thus supports the adoption of the system with his personal engagement” (Portal Manager, Allianz). In the Q&A sessions, a member of the executive board answers questions about the new Allianz Connect platform: “The feedback is very positive. Even today, the people search on the platform for prior Q&A sessions” (Platform Manager, Allianz). In the past, the communications team successfully used these Q&A sessions to encourage its employees not only to use and explore the platform but also to increase top management’s transparency:

There are very successful management blogs [. . .] that slowly but surely become a channel for corporate communications. As a result, the blogging management members have a high level of credibility and many followers, because the blogs come across as being more personal. (Platform Manager, Allianz)

2.4. Impact and evaluation: Improved employee awareness of current topics

To date, more than 6,000 digital communities have been created on Allianz Connect, which has contributed to shaping a new corporate culture: “For the first time, we have a real corporate culture, which is not influenced or shaped by corporate communication, but which was created by the employees and communities” (Platform Manager, Allianz).

In 2017 and 2018, Allianz also conducted a survey to evaluate the various impacts of its digital work efforts. The analysis shows that employees are able to find information, solutions, and experts within the organization easier than before. Furthermore, the employees’ awareness of current topics have improved and they share their knowledge more often.

We also observed that Allianz employees gradually began to shift their individual working practices toward using the new IT more socially and productively: “The impact on the employee level is that colleagues began to change their working methods toward more team-oriented work” (Platform Manager, Allianz).

3. The City Administration of Lenzburg: How does a traditional and governmental organization implement digital work?

The City Administration of Lenzburg is a governmental organization that provides cultural,

economic, and other services to the local area. It is responsible for responding to all the requests and demands received from the individual citizens in the area. It is also responsible for road construction, maintaining public buildings, and attending to public works in general. Approximately 140 employees, who are stationed in various local office buildings, work for the City Administration of Lenzburg. The City Administration has a more traditional working and corporate culture and, therefore, it provides a unique case study for illustrating how it implements and interprets digital work. It is important to note that the City Administration just started to promote digital work and, thus, the maturity level is currently rather low.

3.1. Motivation: Enabling mobility and work flexibility

At the City Administration of Lenzburg, the digital work topic is mainly interpreted on the basis of mobility and work flexibility: “It is work that does not depend on time and location. It also refers to working efficiently by using new technologies. It must be smart so that work becomes easier—and not more complex—for the employees” (Lawyer, City Administration of Lenzburg). The main reason and motivation for enabling digital work is to reduce the employees’ daily commute to work. This is especially the case for mobility-impaired employees for whom the commute is unnecessary since they can do their daily work from home. In this regard, the managing director, who is also mobility impaired, acts as a forerunner who pushes the digital work efforts: “I am a multiple sclerosis patient and I move with difficulty. I am therefore happy to work three days a week from my home office.” The managing director also stated:

I do not care whether an employee needs 2 or 8 hours to get the job done. When it is possible to do the job at home, I support that. [. . .] It is about doing the job and not about being at the office. (Managing Director, City Administration of Lenzburg)

3.2. IT and infrastructure: Introducing mobile devices and remote access

At the City Administration of Lenzburg, the employees can use their smartphones to access emails and calendars. They can also access the files for meetings online via remote access so that digital—and thus flexible—work is possible. Currently, the technologies that promote digital work are specifically used to prepare and evaluate meetings, to develop

new concepts, and to provide IT support. Further, the City Administration of Lenzburg “began to scan the incoming paper-based mail so that it can be accessed from any location” (lawyer, City Administration of Lenzburg). The City Administration also relies on VPN technology and virtual desktops whereby the employees can access their familiar work environment from outside of the office: “For example, I work remotely most of the time; whether I am at the office or at home, I can remotely access my PCs” (CIO, City Administration of Lenzburg).

3.3. Dissemination channels and activities: Guideline-driven rollout

The City Administration of Lenzburg formulated official directives and guidelines. As a result of the prevailing organizational form and structure, the possibilities for implementing and using digital work is restricted by governmental regulations and by the fact that many employees work at the counter with customers: “We formulated directions that clearly define for which departments and circumstances digital work is suitable and for which it is not” (Managing Director, City Administration of Lenzburg). In addition, the City Administration of Lenzburg noticeably focuses on a top-down rollout strategy by relying on longtime, leading employees to push the new technologies and possibilities (e.g., home office): “The heads of department encourage their employees to use it” (Managing Director, City Administration of Lenzburg). They also set a good example by using those new technologies and by talking to their colleagues about the benefits and challenges of digital work.

3.4. Impact and evaluation: The City Administration of Lenzburg perceives cost savings

The employees who use new IT to work flexibly experience benefits: “It is easier for me to plan my tasks and working hours more effectively; it is much better here than at the office” (Managing Director, City Administration of Lenzburg). From the City Administration’s perspective, implementing new IT and home office opportunities are cost-effective because employees working from home reduce office space rental costs: “I consider the reduced rental costs for our office. [. . .] The space for an office costs us 3,700 Swiss francs per year. Providing the option for a home office is much cheaper per person” (Managing Director, City Administration of Lenzburg). In the long term, the city might also benefit, since less parking spaces will be

needed: “I drive four times less often from my house to the office; therefore, we need less parking spaces [. . .] and if all employees would follow my example, we could reduce the daily traffic” (Managing Director, City Administration of Lenzburg).

4. Haufe-umantis: How does a young and modern organization implement digital work?

Haufe-umantis was originally founded as a software development company in the year 2000 and now employs roughly 150 persons. It mainly develops and sells solutions for HR and talent management. The company pursues a spiral career understanding whereby every employee is regularly invited to question their position within the organization, to try out new activities, and to individually develop their own competences. The emphasis on participative leadership is also evident in the process of choosing organizational leaders when the employees vote for their supervisors once per year. For example, when the former CEO felt he was not the right person to lead the company anymore, he asked the employees to vote for a new CEO: “We are a democratic organization. This means that all decisions are made by the employees. For example, the employees nominate and vote for their formal managers” (HR Manager, Haufe-umantis). As part of its organizational identity, Haufe-umantis puts self-organization and self-responsibility at the center of its organization as a basis for organizational success.

4.1. Motivation: Digital work is deeply rooted in organizational identity

Drawing on this, Haufe-umantis’ main motivation for pursuing digital work is deeply rooted in its organizational identity: “Every month we introduce new initiatives, ideas, and experiments. The employees are very open for those topics. This also may be a reason why our employees like to work for Haufe-umantis” (Head of Sales, Haufe-umantis). In contrast to the Allianz case in which the motivations for digital work are rooted in the strategic directions postulated by the top management, at Haufe-umantis the motivations are part of a participative process that involves every single employee:

It was actually an employee’s initiative. He said that it would be a good idea to have a new collaboration tool and the response was, ‘Let’s try it out and see whether the collaboration improves.’ [. . .] The employees are

given lots of responsibilities. (Head of Sales, Haufe-umantis)

During our interview, the head of sales identified the three main motivations for enabling digital work at the company:

First, working time—everybody must arrange their working time individually, but reasonably. Second, the work location—for certain jobs it makes sense to work at the office, but there are also jobs where it makes sense to choose the location. Third, the interaction within the team—it is smart to use state-of-the-art technologies and not collaborate by using email.

Besides the motivations that enable a more flexible working environment and smart collaboration possibilities, the latest digital work project was motivated by the goal to improve transparency between top management and employees (e.g., “Our C-Level tries to make all decisions as transparent as possible and to answer every question;” HR Manager, Haufe-umantis), and also among employees themselves (e.g., “My co-workers act transparently and I know what’s going on so that nobody is merely working for themselves;” Head of Professional Services, Haufe-umantis). Strengthening the team spirit among employees is another motivation: “The more flexible an organization becomes, the more the community—and not the individual—needs to be the center of attention” (HR Manager, Haufe-umantis).

4.2. IT and infrastructure: Self-developing tools that support digital work

Based on those motivations, Haufe-umantis puts a strong emphasis on collaboration platforms such as Jira, Confluence, and various Wikis. In addition, the company implemented a self-developed feedback system so employee evaluations can be conducted from any location and at any time with this system enabling digital leadership: “We developed our own employee management tool with which we implemented very flexible performance management processes so that the employees can transparently see and discuss their performances” (HR Manager, Haufe-umantis).

Drawing on the latest motivation to improve transparency, Haufe-umantis also implemented a new social media app: Haufe-umantis Daily Highlight. This app is a self-developed mobile app that allows all employees to share a photo of events and meetings during their working days. These photos are randomly displayed in the app and the users can ‘like’ by swiping on their displays: “I would say that about 70% of the employees use it daily; it works

quite well” (Innovation Manager, Haufe-umantis). This social media app not only enhances the transparency of current activities at the organization but it also ensures that information is quickly circulated within the organization and it increases the involvement of all employees. For example, during our interview with an HR manager, she posted a picture about the interview and later the CEO ‘liked’ the photo and, thus, acknowledged his awareness and acceptance.

4.3. Dissemination channels and activities: Bottom-up viral rollout approach

The dissemination of new technologies follows the same self-organizational paradigm, which is at the heart of Haufe-umantis’ organizational structure. Instead of a top-down rollout process, the organization builds on viral rollouts. Small teams introduce or develop particular applications by building a self-created pilot group and gathering experience by using the application. In the case that the new IT shows potential, other teams will join in:

If a tool is really good and the first team starts using it, the other teams will jump in. [. . .] My experience shows that every tool that is not self-spreading is not worth following. When we need to make an effort to convince everybody to use it, either the tool or the purpose of the application is wrong. (HR Manager, Haufe-umantis)

Hereby also the top management helps disseminate the new IT. For example, referring to the rollout of the new Haufe-umantis Daily Highlight app, an HR manager stated: “Our CEO was on board from the beginning.”

4.4. Impact and evaluation: Improved employee self-esteem, innovativeness, and loyalty

The Haufe-umantis case shows that implementing digital work does not only rely on implementing new IT, but also on the employees, as well as the organizational culture and system. Digital work along with the level of transparency and flat hierarchies within the organization leads to a better allocation of competencies and resources throughout the organization: “The new tools enable you to get a transparent picture. This is illustrated when, for example, an employee in the development department asks, ‘Who can I ask to solve my problem?’ Hereby, we enable more and better collaboration” (HR Manager, Haufe-umantis).

Rolling out digital work strengthens the appreciation and self-esteem of each employee, which, in turn, leads to a comfortable environment that improves creativity and innovative potential: “I think that we develop self-responsible employees. We give them responsibilities and decision-making power, thereby encouraging the creativity and innovational potential for the organization. This is also a performance factor” (Head of Innovation, Haufe-umantis).

Due to the new digital work possibilities, Haufe-umantis also registers a strengthening of employee loyalty: “Being empowered and free to work 100% from a home office give the employees a good feeling” (Head of Sales, Haufe-umantis) and “You recognize loyalty, because they are enabled to work differently and to naturally expand their personalities” (Head of Professional Services, Haufe-umantis).

5. The challenges of introducing digital work

Our case studies not only give an overview of three very different organizations when it comes to organizational structures and cultures; they also show very different interpretations of digital work and different approaches for introducing it (see Table 3). We also found that the organizations encountered a number of challenges that needed to be addressed before initiating digital work. In this section, we showcase four major challenges that we extracted by comparing and contrasting the case studies and discuss them in light of related management literature.

5.1. Challenge 1: Digital work overload: How to avoid technostress and achieve a better work-life balance

Through digital work, employees can gain more flexibility as they are less constrained by when and where they work. However, the new technology does not always mean flexibility gains for the employees. Instead, it can increase complexity. We observed behavior in this regard at Allianz: The new social enterprise platform, Allianz Connect, presented a plethora of new and different ways to communicate and connect with others in comparison to the old (rather static) intranet. The employees felt so overwhelmed by all the new opportunities that they stuck to their old usage patterns and did not experience the benefit of the new functionalities envisaged by the portal

manager: “That does not mean that they use the platform as we wanted them to. They should use it differently from the way they used their old intranet” (Portal Manager, Allianz).

Moreover, our research shows that an employee can only gain so much flexibility and productivity benefits by using the IT or infrastructure for digital work before drifting into technical overload or technostress. For example, a specific tool could drive employees to work nonstop, even at night or on holidays. In the Haufe-umantis case, the HR manager observed: “It brought us to a situation in which many of our employees worked longer and longer hours.” Other research also acknowledges the danger of burning out due to the overextended use of technology (Ayyagari, Grover, & Purvis, 2011; Mazmanian et al., 2013) raising the need for taking respective countermeasures.

Thus, we conclude organizations are challenged to, on the one hand, motivate employees to use the new IT and infrastructure and to pursue digital work so targeted benefits can be leveraged but also, on the other hand, prevent the employees from excessive and wrong usage behavior.

5.2. Challenge 2: Culture and leadership paradigm: How to align with the prevailing organizational culture and leadership paradigm

Our research shows that when planning the dissemination of digital work, organizations need to take the prevailing organizational culture and leadership paradigm into account. The City Administration of Lenzburg, for example, is a governmental organization with a command and control understanding of leadership. This had an impact on its rollout strategy. In order to implement its new mobility tools and the home office concept, the City Administration of Lenzburg chose a rollout strategy that used official guidelines in the dissemination process: “Regarding the directives for a home office, we clearly defined which of a department’s employees and which types of work are suited for a home office, which are not” (Managing Director, City Administration of Lenzburg).

In the Haufe-umantis case, we observed a more open and less hierarchical leadership paradigm, which naturally lent itself to a more autonomous dissemination process. For example, the decision to develop the new mobile app was a participative employee decision: “It came from the middle of the organization—from a few employees in the development department [. . .] and I said that we need more transparency within the organization so that everybody knows what the others are doing” (HR Manager, Haufe-umantis). Drawing on this, a

viral rollout implementation method seems to be a very effective method for organizations with an open and collaborative leadership understanding (Nan, 2011). This method introduces a particular technology to the organization and the employees subsequently decide whether the technology is a success or not.

Summarizing, organizations face the challenge to choose the right rollout approach that fits the prevailing organizational structures and culture.

5.3. Challenge 3: Digital natives and digital immigrants: How to meet their different expectations

Our study shows that the organizations were confronted with a challenge related to the various employees' and user types' different perspectives on new IT that enables digital work. For example, the surveyed data that Allianz collected for using Allianz Connect shows that the workforce seems to be on a continuum in regard to comfort levels with technology. On the one hand, there are the tech-savvy employees who use IT extensively in

their daily lives, and thus, expect similar tools in the office context (referred to as *digital natives*). On the other hand, there are more traditional workforce members who are not used to the new technologies and who are therefore very critical of new developments (referred to as *digital immigrants*). Other research also confirms this phenomenon (Vodanovich, Sundaram, & Myers, 2010; Wang, Myers, & Sundaram, 2013).

In implementing digital work, organizations want to be attractive employers for new talent while the majority of their employees are still digital immigrants who are typically more reserved when it comes to using new technologies and work practices. Research also shows it is important to not overlook this generation when planning the dissemination of digital work since these adult IT learners often have the most indispensable institutional knowledge and memory (Wang et al., 2013).

Thus, organizations need to not only attract new younger talent and maintain the interest of the younger professionals but also prepare the more reluctant workforce for the upcoming changes when implementing new IT for digital work.

Table 3. Summary of case studies

	Allianz	City Administration of Lenzburg	Haufe-umantis
<i>Motivations</i>	<ul style="list-style-type: none"> ● Strengthen communication and networking ● Improve organizational knowledge management ● Increase work flexibility ● Become a more attractive employer ● Increase innovativeness 	<ul style="list-style-type: none"> ● Ease work ● Improve work flexibility 	<ul style="list-style-type: none"> ● Enable smart collaboration ● Improve flexibility ● Increase transparency (among employees and of top management)
<i>IT and infrastructure</i>	<ul style="list-style-type: none"> ● Home office ● Innovative office concepts ● Mobile devices and BYOD ● Enterprise social media platform (Allianz Connect) 	<ul style="list-style-type: none"> ● VPN and virtual desktops ● Mobile devices and mobile access to email and calendar ● File server ● Digitization of offline paperwork 	<ul style="list-style-type: none"> ● Home office ● Collaboration platforms (Confluence, Jira, and Wikis) ● Social media mobile app (Haufe-umantis Daily Highlight)
<i>Dissemination channels and activities</i>	<ul style="list-style-type: none"> ● Training ● Spreading success stories ● Top management support (Q&A sessions and blogging) ● Substitution of existing tools (move intranets on to enterprise social media platform) 	<ul style="list-style-type: none"> ● Training programs ● Guidelines and directives ● Top management support (forerunner) 	<ul style="list-style-type: none"> ● Bottom-up (viral) rollout ● Mentoring program (People Coaches) ● Top management support (forerunner)
<i>Impacts</i>	<ul style="list-style-type: none"> ● Easier to find information and experts ● Improved organizational awareness of employees ● More team-oriented working behavior ● Improved innovativeness 	<ul style="list-style-type: none"> ● Improved work flexibility ● Cost reduction (office rental and parking) 	<ul style="list-style-type: none"> ● Improved transparency ● Better employee self-esteem ● Improved creativity and innovativeness ● Strengthened employee loyalty

5.4. Challenge 4: The top management: How to be both pioneers and apprentices

Our study shows that top management is caught in the middle of fulfilling two roles in terms of the use of new IT. On the one hand, it is essential for top management to display commitment; for example, a member of the executive board should act as a pioneer by actively and publicly promoting and using the new technology. On the other hand, top management needs to learn how to use new tools and technologies.

All three case studies show top management support is an important success factor when it comes to dissemination. At Allianz, top management regularly answers questions during the already mentioned online Q&A session and regularly blogs on the new enterprise social media platform: “The COO is very active, blogging regularly and, thus, supporting the adoption of the system with this personal activity” (Portal Manager, Allianz). At Haufe-umantis, a similar picture emerged regarding a new mobile app: “Owing to the CEO participating and posting private content, many other employees have also tried this” (HR Manager, Haufe-umantis). This type of interaction is likely to draw employees into using the tool and learning its functionalities; it is also likely to prompt them to commit to using it regularly. The current literature also stresses that top management should act as pioneers who actively promote new IT by embedding them into their daily work life when rolling out new organizational IT (Kahai, 2012; Richter & Wagner, 2014).

In spite of the above-mentioned success with CEO engagement, our case studies also show that certain organizations might find it difficult to get their top management on board—mostly because they are reluctant to learn about and use new IT (see also Challenge 3). Top management often answers with responses like “Yet another new system” and “I don’t have time for this.” In order to overcome such resistance, the top management needs not only to be convinced but also properly trained in order to be able to act as a pioneer and not lead the way by showcasing wrong usage behavior (see also Challenge 1).

Thus, organizations are not only challenged to convince top management to put time and effort into acting as a pioneer, but also in convincing them to learn and train the correct application of digital work.

6. Recommendations to implement digital work successfully

Our experience from our case studies shows that the concepts of digital work are relatively abstract and

open to interpretation. The organizations had different motivations for introducing digital work, chose different IT to facilitate digital work, and used different dissemination activities to establish digital work (see Table 3). Since there are countless ways of introducing digital work, and since each organization is different, there is no silver bullet for successfully introducing digital work to an organization. However, based on the insights gained from the three case studies, we derive eight managerial recommendations to guide and ease the introduction process.

6.1. Develop a clear vision of digital work and choose the right IT accordingly

There are various opportunities to facilitate digital work (see Table 1). Each organization pursuing digital work has a different vision and perspective of what digital work is, resulting in a broad range of motivations and goals for their respective digital work initiatives. For example, at the City Administration of Lenzburg, the provision of home office opportunities was a major motivation. In contrast, at Allianz, one major goal for introducing digital work was to increase the companies’ knowledge exchange by fostering collaboration and social exchange. Referring to those initial motivations, the City Administration of Lenzburg preferred to focus on introducing mobility tools, while Allianz introduced enterprise social media platforms that supported collaboration and fostered social exchange among employees. These examples demonstrate the importance of recognizing the specific motivations and choosing the respective tools.

6.2. Regularly review the use and impact of digital work

Organizations should regularly compare the initial motivation for choosing a particular IT to the resulting impact it has on the workforce using it. If the observed impact does not meet the initial expectation due to inappropriate use, for example, the company should adjust the dissemination plans and modify the corresponding activities. This was observed at Allianz when the uptake of Allianz Connect was rather slow at the start, as illustrated by one middle manager’s words: “At the beginning, I was a bit reluctant. I merely joined in and watched what the others were doing”. In this context, Allianz reevaluated its dissemination channels and activities. Allianz first introduced Allianz Connect as a standalone tool. However, after evaluation, the company decided not to use this platform simply as yet another tool but to add the various intranets

of the divisions to encourage employees to start working with the platform and successively explore the new digital work functionalities.

6.3. Be prepared that implementing digital work is a long-term process

Implementing digital work is not done by initiating a single project that introduces a particular IT or infrastructure. The process is rather long-term and iterative, resulting in a degree of maturity of digital work. Depending on this maturity level, a vision and motivation of an organization for pursuing digital work might change and thus, new IT is needed in order to meet the new goals. For example, Haufe-umantis decided—after several collaboration tools were already in place aimed at fostering work flexibility—to introduce a new tool for the purpose of explicitly fostering transparency. Thus, it is important to always keep track of the organizational developments as well as technological advancements.

6.4. Initiate mentoring activities

Reflections on digital work often center the positive outcomes and effects. Our case studies show digital work can provide employees with more flexibility and, thus, with the possibility of an improved work-life balance (Handley et al., 2017). However, gaining flexibility has a flipside: The flexibility of working anywhere and anytime can get out of hand if the new IT is so heavily used that work life encroaches on private life. This can lead to technostress and, ultimately, to burnout. In order to counteract this, Haufe-umantis, for example, initiated a mentoring and support program known as the People Coaches: “People Coaches are mentors who are not your direct supervisors, but trained so you can talk about your work and further development” (Innovation Manager, Haufe-umantis). During the mentoring sessions, the working patterns and habits are also discussed to uncover unproductive behavior. Such a mentoring system can help individuals obtain a more objective perspective on their working habits to avoid drifting into technostress. Therefore, early detection and suitable prevention mechanisms such as mentoring activities have to be in place to counteract unrestrained and wrong use of the new IT (Ayyagari et al., 2011).

6.5. Develop an open and collaborative organizational culture

Further, implementing digital work successfully and sustainably ultimately requires a paradigm shift from a

command and control management style to an open and collaborative style (Li, 2010; Nguyen, Mia, Winata, & Chong, 2017): “It is very important to have an open organizational culture; otherwise, it [digital work] might not work” (HR Manager, Haufe-umantis). If new technology is introduced that enables the employees to engage in open (interdepartmental) communication, the middle management cannot (as before) act as an information filter to strengthen its position. Furthermore, the command and control management style has limitations since digital work promotes working in dispersed teams. Although a change toward an open and collaborative leadership style encourages the uptake of digital work, such a shift takes time and cannot be achieved overnight.

6.6. Consider the organizational culture and leadership paradigm when planning the rollout of digital work

Thus, depending on how this paradigm shift toward an open and collaborative organizational culture progresses (see above), we found that the dissemination of new IT for digital work needs to fit various types of rollout strategies, which vary between a more top-down or bottom-up approach. Looking at the literature, we find research stating that the success of digital work is highly dependent on being compatible with the prevailing organizational culture and leadership paradigm (Ingebrigtsen et al., 2014; Nguyen et al., 2017; Richter & Wagner, 2014). Our case studies showcase two contrary organizational cultures:

- Haufe-umantis has an open and collaborative workplace culture, in which it was very successful to take a more democratic and bottom-up rollout approach; and
- City Administration of Lenzburg has a more traditional command and control organizational culture, in which a top-down approach of directives and guidelines is more promising.

However, organizational culture cannot be described as black or white but more as a spectrum between those two poles. Thus, depending on the prevailing leadership and culture, more structured dissemination activities based on a top-down rollout strategy may be promising—or more autonomous dissemination activities based on a bottom-up rollout strategy.

6.7. Ease employees into digital work and involve them in the introduction process

The cases we investigated show that an introduction of digital work oftentimes involves two groups in the

workforce, namely the tech-savvy digital natives and the digital immigrants who are latecomers to a new technological environment. Both groups need to be motivated to use the new possibilities for successfully and sustainably implementing digital work within the organization. One way of addressing this is to implement new IT that can substitute for a particular tool already in use without actually changing the existing work practices. For example, Allianz implements Allianz Connect as intranet so that employees can begin using the new enterprise social media platform. Hereby, the digital immigrants can be convinced by the new technology's benefits and other functionalities, and, thus, also raise the intrinsic motivation to further explore the new tool.

However, organizations must also attract new younger talent and maintain the interest of the younger professionals who are already employed. Involving them in the planning and rollout process from an early stage can encourage high motivation; it can also produce valuable feedback for the project management since the digital natives are well informed on the possibilities and options of the new IT. Considering the companies in our case studies, we found a diverse range of implementation activities. For example, by using a bottom-up rollout approach like Haufe-umantis, the tech-savvy young employees can try any tool and play around with it. Another example of involving the tech-savvy young employees at an early stage can be seen at Allianz: They are invited to produce and teach self-created training materials.

6.8. Prepare the top management to act as pioneers

We propose top-management involvement and top managements' visible use of the IT as a suitable dissemination activity for many cases. The current literature also stresses that top management should act as pioneers who actively promote new IT by embedding them into their daily work life when rolling out new organizational IT (Kahai, 2012; Richter & Wagner, 2014). Our case studies confirm this because all three cases above rely on particular top managers to act as pioneers who draw the attention of their employees toward digital work.

At the same time, we found it is naïve to assume top management always has the right skillset and passion to be pioneers. Therefore, measures need to be undertaken to motivate and train the top managers for digital work. One way of achieving this is the so-called *reverse mentoring* activity (Chaudhuri & Ghosh, 2012) whereby—for example—young, technologically savvy employees

act as contact persons for any questions on the new ways of working. When managers are approached, it is essential to emphasize the benefits of the new possibilities rather than the technical aspects. Another possibility to guide top management when teaching them how to use new technologies is to develop guidelines and provide assistance. For example, at Allianz, a template was developed and real-time assistance was provided for top managers on how to conduct management Q&A sessions: “We give advice and support management chats [. . .]. We have just developed a template and guidelines for them” (Portal Manager, Allianz).

7. Making digital work work

At an earlier time, I would have said that the workplace of the future is one that offers flexible working hours and a bring-your-own-device of sorts so that I can work where I want, when I want, and at what I am good at. However, today I would say that it is much more: It means enabling the right people at the right time by means of the right work environment. (HR Manager, Haufe-umantis)

Our study illustrates and discusses the facilitation of digital work in three organizations. We identified four major challenges organizations are confronted with when they introduce digital work. Based on our case descriptions and the discussed challenges, we derived eight recommendations for the successful and sustainable establishment of digital work.

Although the value and strategic advantage of digital work are duly acknowledged, its dissemination is not a straightforward exercise. As discussed, each organization has its own context to be considered when implementing digital work. In this context, the introduction of digital work is heavily influenced by the respective industry of an organization. Further, as the case studies show, the maturity and size of a company also has a major impact on the introduction of digital work. Thus, digital work needs to be implemented differently in start-ups exhibiting a smaller workforce, a more entrepreneurial spirit, and flatter hierarchies in contrast to traditional or governmental organizations. Therefore, our recommendations need to always be considered in this light. In addition, we provide recommendations including various concepts and activities to use in order to overcome challenges and implement digital work. However, the activities have to be chosen in a targeted way, since they can also mutually exclude one another or

duplicate their effects. Moreover, use of some of the activities has cost implications; the more, the better is not advisable in this regard.

In sum, our case studies show that facilitating digital work is not only achieved by choosing new IT but also by a shift in traditional structures, organizational cultures, and ways of thinking. At the same time, organizations need to consider how to implement digital work in a manner that ensures maximum employee uptake.

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