Digital Transformation in Higher Education – New Cohorts, New Requirements?

Full Paper

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Abstract

Digital transformation refers to changes that digital technologies cause and that influence various aspects of human life. Previous researchers mainly focused on the impact of the digital transformation in the context of commercial organisations and business processes. In this study, we aim to examine how digital transformation affects universities and students. We examine differences and changes in the usage of collaboration and communication platforms between different groups of members at the university and within the university lifecycle. To gain new insights, a qualitative case study with semi-structured interviews was conducted. One of the main results shows that Bachelor and Master students prefer the usage of social network sites for collaboration and communication while Ph.D. students and employees do not. Even though an increasing number of modern platforms for direct communication is offered, the results show that the communication between the groups of students and employees still takes place via email.

Keywords

Digital Transformation, Higher Education, Collaboration, Technology Adoption

Introduction

Technology has become a fundamental part of our daily life. Today, IT artifacts can be discovered at home, work, education, transport, or leisure. Due to the drastically shift of technology, the whole society is changing in the way it communicates and collaborates. Prior research has started to focus on this phenomenon which is widely known as digital transformation (Henriette, Feki and Boughzala, 2015). Digital transformation does not only refer to a shift of technology. According to Stolterman and Fors (2004) digital transformation can be understood as the "changes that the digital technology causes or

influences in all aspects of human life" (p. 689). Hence, the authors claim the prevalent "one-dimensional" understanding of information technology in Information Systems (IS). Digital transformation leads to an increasingly interconnected reality. In enterprise contexts, digital transformation encourages an organizational shift, where big data, analytics, cloud computing, mobile applications and even social media platforms have become omnipresent (Nwankpa and Roumani, 2016).

Previous research mainly focused on digital transformation in the context of commercial organizations and business processes, but there still exists a lack of research that determines the impact of digital transformation in the context of collaboration and communication at universities. As shown in prior research, social media technologies are currently affecting the way students communicate and collaborate at universities (Tess, 2013). Nevertheless, it is important to emphasize that technology is continuously and rapidly evolving. Even people from the same generation grew up with different types of technology (Akçayır, Dündar and Akçayır, 2016). Moreover, in case of universities, people with different demographical and educational backgrounds are forced to cooperate, collaborate and communicate together for a common goal. Thus, there might be significant differences in the usage habits depending on their technology affinity, which can in turn determine the success of the collaboration process. As this research area is yet an unexplored field we raise the following research question:

How does the usage of digital platforms differ between different groups of university members?

We also want to uncover collaboration and communication problems at the universities and to derive corresponding implications for the design and functionality of these platforms. To fill this research gap, a qualitative case study with semi-structured interviews was conducted to gain first insights in this research area. Through these insights it was possible to emphasize the relevance of digital transformation in the context of university and to provide a foundation for further research.

The next section provides a literature review on adoption and usage of technology in higher education, followed by the theoretical background of our study: the Collaboration Virtualization Theory. We will then describe our research design and subsequently show the empirical results. Research method and results will be presented and critically reflected in the discussion section. This paper ends with a conclusion and outlook to further research.

Adoption and Usage of Technology in Higher Education

Communication and collaboration systems are described as computer-based systems which support groups of people in common tasks or goals and which provide an interface to a shared environment (Borghoff and Schlichter, 2000). Alnuaimi, Robert and Maruping (2010) state that there exists a growing trend of using collaboration technologies to support teamwork. A possible explanation for this trend may be that technology is a significant factor in facilitating the success of virtual teams (Majchrzak, Malhotra, Stamps and Lipnack, 2004). Communication and Collaboration Technology also provides numerous advantages for higher education. It allows to establish tools for sharing and communication between the various stakeholders involved in scientific research at universities (Elhissi and Haqiq, 2016). Furthermore, Information and Communication Technology (ICT) is important for education and it supports effective access to information and services (Incheon Declaration, 2015; Qingdao Declaration, 2015). A study by Li, Zheng, Shen and Guo (2015) demonstrates that students appreciate collaboration technology within group projects. Functionalities like content sharing, features for mobile support and interaction with social network sites (SNS) were valued as important features regarding collaboration technology (Li, Zheng, Shen and Guo, 2015).

Research shows that there exists an emerging trend of adopting different technologies in higher education besides conventional communication and collaboration systems. According to Kam and Katerattanakul (2010), Web 2.0 collaboration tools could be useful to support collaborative learning in a team-based environment as well as knowledge dissemination (Rollett, Lux, Strohmaier, Dosinger and Tochtermann, 2007). Especially, document management and the flexible usage regardless of time and user's location are beneficial functions (Kam and Katerattanakul, 2010). Furthermore, social media is considered as a communication and collaboration tool in higher education. According to Martin, Diaz, Sancristobal, Gil, Castro and Peire (2011) communication and collaboration are enhanced via the usage of SNS for educational purposes. Tess (2013) describes social media as omnipresent "at the university where

technology [transforms] the ways students communicate, collaborate and learn" (p. A60). A study by King, Greidanus, Carbonaro, Drummond and Patterson (2009) demonstrates that the adoption of an educationally structured social networking environment supports effective communication. Additionally, research shows that social media use can facilitate students' collaborative activities (Zhang, Chen, Sun and Wang, 2016) and improve students' collaborative learning abilities and performance (Al-rahmi and Othman, 2013). Furthermore, Truong and Dustdar (2011) state that collaboration between various researchers and scientific groups could be improved by cloud computing. Literature also showed that the integration of collaboration features in a University Cloud Computing Service is highly requested (Meske, Stieglitz, Vogl, Rudolph and Öksüz, 2014; Stieglitz, Meske, Vogl and Rudolph, 2014). They also uncover a demand for features like sharing documents with other persons, real-time collaboration, version management of documents and commenting others' documents. The survey's results additionally prove that the requirement for collaboration features differs between students and employees.

Regarding the different members of a university lifecycle, namely Bachelor students, Master students, Ph.D. students and employees, it could be supposed that they differ in their digital affinity and in their usage of ICT since they grew up with different kinds of technology. When talking about differences in the usage of technology, there are often two groups of people named: "Digital Natives" and "Digital Immigrants". The terms Digital Natives and Digital Immigrants describe the difference between individuals that grew up using "new" technology their whole live and individuals that adopted the "new" technology at a later point in their life (Prensky, 2000). Originally, Digital Natives are defined as individuals born after 1980 with different technological skills as possessed by the members of the prior generation (Prensky, 2000). However, earlier studies found that it is too easy to just reduce Digital Nativeness to age, since there also exist important psychological, organizational and social factors (Wang, Myers and Sundaram, 2013). Earlier research found that even individuals within each respective age band differ among each other relating to their Digital Nativeness (Akçayır et al., 2016). One finding of the research conducted by Akçayır et al. (2016) demonstrated that there exist significant differences between the academic year and the Digital Nativeness. This finding suggests that a higher state in a university lifecycle makes an individual more likely to be a Digital Native. It seems to be conceivable that the different members of a university lifecycle also differ in their usage of ICT. But rather than just detect how people use media, it is much more revealing to understand the motives behind the usage of media. Studies focusing on the usage of technology by students found that they may differ in their motivations for using technology (Parker and Plank, 2000). Recently, there has been some research on students' motives for using a certain type of technology. Guo and Tan (2007) examined university students' motives for using computer mediated communication tools. They found the most important motives to be interpersonal/social utility, convenience and information seeking. Stevens, Guo and Li (2014) further investigated the motives for using technology mediated learning platforms in higher education and found accessibility, information seeking, interaction and the managing of content to be essential for the usage of those platforms. But still, there is a lack of research concerning the usage and adoption of communicative and collaborative tools in an academic context, especially concerning differences between the different states in the university lifecycle.

Theoretical Background: A Collaboration Virtualization Theory

Through the rise of technology, most collaboration processes are virtual to a certain degree (Griffith, Sawyer and Neale, 2003). Hence, the overall collaboration process is rather a conjunction of physical and virtual activities than purely one of the two extremes. Also, the communication and collaboration process between the members of universities may contain both physical and virtual activities. To understand how the usage of communication and collaboration technology differs between the different states in the university lifecycle, it is also important to consider the factors, which may influence the motives and the usage of a certain communication and collaboration system.

Fan et al. (2012) developed the Collaboration Virtualization Theory, which provides an overview of factors that have already been proven to be significant for virtual collaboration. Fan et al. (2012) aim to collect factors of collaboration which influence the suitability of virtualization and to examine how those factors impact the design of effective collaboration systems. The authors identified three different main categories of characteristics which are determining the suitability of collaboration virtualization: the team, the task and technology characteristics. Besides the technology, researchers have also shown that the team itself affects the collaboration process. Moreover, the authors derive two team characteristics as

predictors of collaboration virtualizability: the team relationship and the team experience. Thus, the experience and the familiarity of the team with task will reduce uncertainty and further lead to an improved collaboration process (Littlepage, Robinson and Reddington, 1997). Further, Aubert and Kelsey (2003) pointed out that a lack of relationship and trust between the team members reduces the virtualizability of collaboration. The second category, the task characteristics, involves three important indicators of the nature of collaboration tasks: the task urgency, complexity and sensitivity. For example, researchers have found that a team is more likely to use synchronous communication media, if the team performs more complex tasks (Bell and Kozlowski, 2002). Similarly, people are more likely to use real-time and synchronous communication media, like face-to-face meetings or telephone, if the task is perceived as urgent (Straub and Karahanna, 1998). Not only the complexity of the task, but also the data security is an important challenge to handle, especially in the case of broader teams (Smith and McKeen, 2011). As already mentioned above, the literature has shown that technology is a significant factor in facilitating the success of collaboration (Majchrzak et al., 2000). Thus, the third category describes the technology characteristics and is divided in two different factors: the technology accessibility and the capacity. For example, researchers have already shown that a high accessibility of a collaboration technology increases the usage of an IT-System in virtual teams (Park, Roman, Lee and Chung, 2009). Also high technology functionality and information richness, in terms of capacity increase the usage of an IT-System in virtual teams (Smith and McKeen, 2011). In addition, the authors assume that the multi-task degree might have a moderating effect on the virtualizability of collaboration technology. The multi-task degree is defined as the number of tasks the team members have to participate at the same time. Fan et al. (2012) postulate that a high degree of multi-tasking could have negative consequences on the success of the collaboration tasks and they further assume that it might moderate the relationship between the team, the task, the technology and the collaboration virtualization. Thus, the authors highlight that collaboration technologies should provide additional functionalities for the management of different tasks.

The Collaboration Virtualization Theory (Fan et al., 2012) displays just a limited overview of all factors, which influence the effectiveness of a collaboration technology. Nevertheless, it provides an insight in the potential factors, which might affect the usage of collaboration technology in the context of the university. Furthermore, these factors could provide possible reasons why the usage differs between the mentioned groups of university members in case of the presented study. The following section presents the research and analysis method.

Research and Analysis Method

To answer the research question how the usage of digital platforms differs between different groups of university members, semi-structured interviews were conducted. A qualitative design was chosen to gain detailed unsupported insights about the different groups and their usage of digital platforms. To define the structure of the interviews an interview guideline was developed based on the Collaboration Virtualization Theory. The theory defines three main factors that influence the success of team work: the team, the task and technology characteristics (Fan et al. 2012). Those factors are depicted in the interview guideline regarding to experience, type and frequency of group tasks and usage of features. The semi-structured interview allows a change of order and additional questions if it seems necessary (Kuckartz et al., 2008). The guideline includes nine main questions regarding the frequency of group work, knowledge about and usage of digital platforms for collaboration and communication, type of group work, usage of different features, experience with digital platforms, trust in digital platforms for communication and collaboration and elaboration of university platforms. All topics assessed reasons for choosing different options and features to identify why suspected differences occur.

To find interviewees, four groups were categorized that fit with the university lifecycle model. All interviewees are associated with a German university and their studies were related to the discipline of Information Systems. To make sure that representative persons for each group are interviewed, data of the “Statistisches Bundesamt” (Federal Office of Statistics, Statistisches Bundesamt, 2016; Hähnel and Schmiedel, 2016) was consulted and the following categorization was established. Bachelor students should be between 18 and 24 years old and in the 4th till 6th semester of their studies. Master students are 24 to 26 years old, studying in their second or 4th semester. Ph.D. students are aged 27 to 31, employees 35 to 39, both working for at least one year. Two persons of each group were interviewed, one female and

one male. Except for the male employee, who was 30 years old, all interviewees fulfilled these standards. All interviews were conducted in face-to-face sessions at the university Duisburg-Essen.

The analysis of the transcribed interviews was based on Mayring's qualitative content analysis (2010). Due to this method, the material is generalized in the first place and then reduced during an abstraction process (Mayring, 2010). The central aspect of qualitative content analysis is the development of a categorical system which helps to identify the aspects that seem necessary for answering the research question from the wealth of the interview material (Vogt and Werner, 2014). To derive an optimal coding guideline, the first 19 categories were extracted from the interview guideline. After the first coding process, eleven inductive topics were added, resulting in overall number of 30 topics. All categories should be distinct. The validity of the first coding process was tested with a second coder. As a decent accordance of the coders was proved (.918), all interviews were finally coded. After analysing all transcripts, two categories (type of features, platform usage of other parties, mobile usage and topic of work) were deleted, since they were irrelevant for most interviews.

Results: Differences in Using Digital Platforms between Cohorts

Overall eight main categories were derived from the previous coding process. Group Tasks, Digital Platforms, Evaluation, Features, Interaction, Experience, Safety and Digital Offering).

Group Tasks: The first main category can be summarized as *group tasks*. The subcategories identified were *frequency of group work, type of group tasks, complex group tasks, less complex group tasks*. While Bachelor students answered that they work in groups "increasingly often", Master students stated they do group work "very often". Employees and the Ph.D. students reported that collaboration and communication tasks are part of their "daily" routine as they usually work in teams. The results show that the frequency of collaboration and communication tasks increases along the university lifecycle, even though there was no increase from Ph.D. students to employees. This goes in line with earlier research, which showed that individuals with higher levels of education are more familiar with professional software and thus use it more frequently (Madadi, Iravani and Nooghabi, 2011). Of course, these differences are related to the academic status and can also be affected by individual factors. Bachelor students mentioned tasks like "exercises", "presentations" or "practice projects" as common tasks to solve in groups. Master students also mentioned "writing reports", "surveys" and "seminar work", which lead into a more scientific direction. The most complex task for them was "writing reports". Ph.D. students and employees showed a lot of overlaps in their answers. They mostly mentioned "writing reports", "publishing papers" and "empirical work" as complex tasks.

Digital Platforms: The category *digital platforms* includes the *knowledge and usage of digital platforms* as well as *reasons for using or not using* those platforms and the *forms of usage*. All participants mentioned a large variety of platforms they know, e.g. social media platforms like Facebook, as well as messengers like WhatsApp. Also, university platforms like Moodle or Basic Support for Collaborative Work (BSCW) were mentioned the majority of participants. Moodle and BSCW are collaboration and communication platforms that are used by various universities to organize seminars and lectures. Cloud storage offers like Dropbox, Google Drive or the university equivalence sciebo (Vogl et al., 2016) are all known, and used by all groups to create and exchange documents. This finding is in line with the research of Stevens et al. (2014) who found information seeking and the managing of content to be essential reasons for using a platform at universities. Bachelor and Master students both mentioned they mainly use Facebook and WhatsApp as communication and collaboration platform. Ph.D. students mostly use those platforms for private or less sensitive communication, while employees state to know them but do not use them for collaboration. Ph.D. students and employees preferred known and established platforms like Moodle or BSCW because they like to separate private and professional matters. Bachelor and Master students on the other hand prefer social media and messengers, because they want to use a platform they also use for private matters so they do not miss anything due to push messages and mobile applications.

Evaluation of platforms: The *evaluation of platforms* consists of *general evaluations, advantages of platforms* and *disadvantages of platforms*. General evaluations of employees see Moodle and email as the "most important" platforms in the university context. Both are easy to work with, handle and help to separate private and professional matters. Ph.D. students also rate Moodle as a good platform but criticize the "one-sided communication". Bachelor and Master students stated advantages in platforms with higher

reach for their communication "[…] for example WhatsApp or Facebook, because you also use it for private matters, so you practically can't miss out on anything". In contrast Ph.D. students and employees want to separate private and professional matters. This makes clear that Bachelor and Master students like to use social media while Ph.D. students and employees don't want to use social media for business collaboration. This finding also accords to the research conducted by Tess (2013) who found social media to transform the ways students communicate and collaborate.

Features: The category *features* includes the subcategories *obstructive features*, *helpful features*, *not used features* and *used features*. Master students criticized that Facebook and Google Drive lack a satisfying representation of files. Ph.D. students stated the inconvenient invitation of members in BSCW, while employees reported that the role assignment on Moodle is obstructive. Bachelor and Master students don't use Moodle and BSCW for communication purposes but mostly for downloading documents. On the other hand, the Ph.D. students upload documents via Moodle and BSCW. Regarding Facebook and WhatsApp Bachelor and Master students appreciate the simple communication and the possibility to exchange files. Ph.D. students don't exchange documents via Facebook. The employees mainly use email for communication purposes and exchange of information and files. In contrast with the Ph.D. students the employees use Google Docs for creating and commenting documents. Remarkable findings are that in contrast to Ph.D. students and employees, Bachelor and Master students are willing to use SNS for university purposes.

Interaction: Regarding the category *interaction with other parties* the Ph.D. students and the employees stated that they like to communicate via Moodle with students, because they can reach all at once. The findings show that both groups of students don't communicate via this platform, which is also reported by a Ph.D. student: "I write something […], but nothing happens. In case they write an email […]." This supports other studies that already showed that the interaction with other people is regarded as reason for the usage of a platform (Guo and Tan, 2007). The Bachelor students mentioned as an advantage that they stayed in contact with their docent on platforms, but named as a disadvantage that the docent could read their communication. So, both groups of students pointed out that they have to pay attention to the tonality of their writings when interacting with employees of the professorship. Recapitulating, these findings show that the presence of different groups on one platform can lead to different consequences for the groups and can be perceived as helpful and restrictive at the same time.

Experience: The category *experience* subdivides into *experience before university activities*, *context of experience* and *chronological order*. The Bachelor, Master and Ph.D. students have rather used communication than collaboration platforms and SNS like Facebook or WhatsApp before their activities in higher education. The groups of Bachelor and Master students have used these SNS already during their school days. The employees named email as a previous used technology. Nearly every participant reported that they first started using collaboration and communication platforms at universities. The fact that both groups of students continued using SNS for university activities since their school days supports the assumption of Fan et al. (2012) where to experience is an important factor for successful collaboration.

Safety: Furthermore, the category *safety* and the subcategories *data safety regulations*, *unsafe platforms* and *safe platforms* were identified. Both groups of Ph.D. students and employees reported that they have to comply with regulations from their professorship which include that sensitive research data must not be revealed to the public. The Ph.D. students further elucidated that the usage of SNS is unwanted due to the named regulation. Nearly every research participant named Facebook as a very unsafe platform. In virtue of hacker attacks Dropbox is also perceived as unsafe as well as Google Drive because the company doesn't operate according to German data protection law. Regarding email the participants disagreed. An employee considered this platform as unsafe, because third parties could inspect it. On the other hand, one Ph.D. student evaluated email as safe due to codification. Nearly every participant assessed Moodle and BSCW as safe platforms. Recapitulating, the findings reveal that SNS and platforms offered by international, large companies are judged as unsafe platforms, whereas platforms offered by higher education are considered as safe. Based on the fact that some participants mentioned safety concerns by themselves, one can conclude that safety of sensitive data is an important factor for collaboration according to Fan et al. (2012).

Digital Offering: The category *digital offering* subdivides into *evaluation of the digital offering from university* and *optimization of the digital offering from university*. The Bachelor and Master students

use the platforms offered from the University of Duisburg-Essen only partially, but rated those as adequate and gave no recommendations for improvement. Concerning the mobile usage of a platform a Bachelor student preferred using the Asana App than the website due to quicker information retrieval, which could be considered as an improvement proposal. Ph.D. students assessed the offering as weak, so they wish for more features and a more attractive design. The employees evaluated the offered platforms as good.

Discussion and Implications

In summary, the research question refers to the differences between different groups of university members concerning their usage of digital platforms. The combined results showed that the four investigated groups can be classified into two main groups due to many similarities and differences. The first group exists of the Bachelor and Master students while the second group includes the Ph.D. students and the employees. Only little differences were found between Bachelor and Master students as well as between Ph.D. students and employees. The main differences were revealed between those two main groups. Obviously, it is common sense that the Bachelor and Master students as well as the Ph.D. students and the employees are corresponding with each other and that their state in the university lifecycle and their kind of work are more similar. Hence it isn't surprising that the presented results mainly refer to differences between these two main groups. However, the noticeable differences were found in the categories of *group task frequency*, *usage of platforms*, *interaction with other parties* as well as for the *experience* with communication and collaboration platforms.

One main finding is the rise of the frequency of group tasks among the university lifecycle whereupon there is no difference between Ph.D. students and employees. This finding can be attributed to the specification of each state and the associated requirements. Another essential difference was found in the usage of platforms. Bachelor and Master students prefer the usage of SNS for collaboration and communication while Ph.D. students and employees do not want to use SNS for their work since they prefer to separate private and professional matters. This is especially surprising since all groups assessed SNS as being unsafe. The fact that students nevertheless use those kind of platforms could be caused by the experience they have with the platforms as well as to their familiarity with the platform. Hubona and Whisenand (1995) already showed that the system familiarity significantly affects the usage frequency and volume. Since the group of Ph.D. students and employees grew up with another kind of technology, they are not as familiar with SNS as students are. Furthermore, it seems possible that the Bachelor and Master students possible don't understand the importance of data security and integrity which is possibly why they choose to use social media outlets instead of presumably secure sharing platforms. PhD and professionals might have a deeper commitment to work related research data, since these data build the foundation for any empirical and educational research results (Corti et al., 2014). As indicated by Wilms et al. (2016) professional researchers are increasingly aware of adequate Research Data Management, where to the responsibility in terms of data security is raises. Nevertheless, the results indicate that platforms which are hosted on universities' infrastructure appear safer than platforms hosted by international companies like Facebook or Google. Even email is valued as a safe communication tool. Furthermore, the findings show that there is a difference in the communication with the other party. While Ph.D. students and employees like to communicate with the students on the Moodle platform, the students don't reply via Moodle and prefer email for communication. Bachelor and Master students mentioned that the presence of the other group was perceived as inhibiting which could be a reason for the preferred usage of email. One could argue that the public communication constraints the students. Another possible reason for not actively using the Moodle platform mentioned by a Master student is the missing motivation and the assumption that someone else will ask the same question anyway so that you get the answer without being active yourself. Finally, an important difference was also found regarding the experience with digital platforms for collaboration and communication. Since Bachelor, Master and Ph.D. students stated that they already used SNS before their current employment and Bachelor and Master students already used SNS in their school days, one can assume that the familiarity with a platform fosters the continuing usage of that platform. This assumption is also supported by the statements of the employees who stated email as a previously used platform, which still is one of their main platforms for communication. The differences in the experience with digital platforms for collaboration and communication can presumably be attributed to the digital transformation.

The results have several implications both for theory and practice. From a theoretical point of view, the present research should serve as a starting point for future research on the usage of communication and collaboration platforms in the university context. There is a need for conducting a long-term study to examine the development of the digital transformation within the next years. The emerging question is whether, i.e. people who are in their bachelor studies by now continue using the platforms they are currently using whenever they become Ph.D. students or employees or whether they adapt their usage of platforms to the state they are in. Another approach, surrendered from the interviews, is the investigation of whether the system familiarity is connected with the usage of a platform, even if beneficial alternatives are known. Earlier research already showed that there is a significant effect of system familiarity on usage frequency and usage volume (Hubona and Whisenand, 1995) and that individuals with higher levels of education are more familiar with professional software and thus use it more frequently (Madadi et al., 2011). Further research showed that the investigated cohorts actively chose a certain type of media to satisfy their needs. All groups expect certain properties from a platform and thus select the appropriate platform that fulfills their expectations. This finding is in line with the Uses and Gratification Theory (Katz, Blumler, and Gurevitch, 1974) which should be considered when conducting future research on the usage of digital platforms for collaboration and communication. One could identify the goals an individual has and examine whether someone's goals are associated with the platform they chose and identify the degree of awareness connected with that choice.

From a practical viewpoint, there are several implications to improve the communication and collaboration processes for different cohorts at the university and to support the communication and the exchange between students and employees. The added value from the present research mostly supports the work of the IT department of the university. The research gives several implications either for the optimization of the Moodle platform or for the development of a new platform. Due to the conducted interviews, several properties which are expected from an optimal platform were generated. These properties mainly reflect the common ground of all groups. First, it is important to be able to manage the access rights, so that both public and private communication within groups is possible. Additionally, a direct communication with the other party must be given. Further a mobile as well as a desktop usage is wished for just as an instant messenger and push notifications. People also desire a cloud storage and an upload function for documents and files. Precise and clear data protection regulations are also wished for. Finally, all groups mentioned an easy usability and clarity of the platform as well as an attractive design to be essential factors. Although many SNS functions were mentioned, it still must be considered to develop a pure collaboration and communication platform for the university and to have a clear separation of private content.

Conclusion and Outlook to Further Research

In the present research eight interviews were conducted with members of the university, namely Bachelor students, Master students, Ph.D. students and employees. The aim was to identify differences between those groups concerning their usage of digital platforms for collaboration and communication at the university. The transcribed interviews were analyzed using qualitative content analysis. The uncovered differences between the cohorts in the university lifecycle explain why the IT department of the university is constantly confronted with new requirements. Since the digital transformation still takes place, new cohorts will evolve who differ in their preferences and requirements concerning the usage of digital platforms. The IT departments therefore faces the challenge to develop an offering that satisfies the needs of all groups involved in the university.

The presented research shows several limitations. First of all, there were qualitative interviews conducted, which provided an in-depth insight into the usage of digital platforms at the university. However, the insights are limited due to the small number of interviews. There is no guarantee that the analyzed students and employees are representative of the base population. There is a need for further investigation, which can be supported by quantitative research. Also a future survey with a large sample size is required. Further it is necessary to expand the research to other universities with other platforms and to other fields of study. Since the present research concentrated on one university and one course of study, a generalizability of the findings cannot be guaranteed. Both the university as well as the course of study are likely to influence the usage of digital platforms for communication and collaboration and should therefore be examined in future research. The present research revealed essential differences in the usage of SNS for communication and collaboration at university. To validate this finding future

research mainly focusing on this aspect may be required in order to identify the impact of the diverse usage of SNS and to assess the possible integration of those platforms into the platforms offered by the university. In addition, the present research explored that the communication between the group of students and the group of employees somehow is suboptimal. Further research needs to investigate the requests of each group so that deeper insights can be generated and the joint communication can be optimized.

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