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# The Intensified Blurring of Boundaries Between Work and Private Life through IT Consumerisation

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# THE INTENSIFIED BLURRING OF BOUNDARIES BETWEEN WORK AND PRIVATE LIFE THROUGH IT CONSUMERISATION

*Complete Research*

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## Abstract

*Consumer technologies have intensified the blurring between work and private spaces. For instance, employees increasingly use privately owned devices for work or company provided devices for private tasks. By means of a multiple case study in four organisations, we investigate the current use of consumer IT in organisations in relation to the increased blurring between work and private life. With regard to boundary theory, we are able to identify six technology-related aspects that describe the intensifying role of IT consumerisation in terms of blurring boundaries. Whether people strive for work-life integration or segmentation, they often experience conflicts in realising their individual preference. However, it seems that IT consumerisation further moved the standard for work-life blurring towards integration rather than segmentation. The number of identified conflicts suggests that there is still a lot of potential for software vendors and user companies to make the management of work and private life spaces more feasible. More specifically, there is a need for solutions that better target individual preferences towards work-life blurring. Our study sheds further light on both increasing chances and challenges that consumer technology puts on employees and organisations.*

*Keywords: IT consumerisation, work-life blurring, boundary theory*

## 1 Introduction

Information technology (IT) has facilitated blurring between work and private life ever since. Starting in the 1990s, telework broke up spatial boundaries between the workplace and the private home space (Gray et al., 1993). Later, mobile technologies facilitated working from anywhere, anytime, thereby further dissolving any still existing spatial and temporal boundaries between work and private life (Davis, 2002). Research from various domains has abundantly studied effects of the blurring boundaries on work-life conflict and stress (e.g., Gant and Kiesler, 2002; Hill et al., 2003).

The increasing overlap between work and private life spaces puts the challenge on workers and organisations to find the right balance. This work-life balance is generally accepted as an important antecedent for people's well-being (OECD, 2013) and as predictor for psychological health factors, such as stress and work exhaustion (Ahuja et al., 2007; Ayyagari and Grover, 2011). Despite the long-lasting history regarding an increased work-life overlap, a notable amount of employees still worries about the blurring of work and private life spaces through increased flexible working, often facilitated by technology (Vodafone, 2012).

Organisations have reacted to the demand for work-life balance of their current and future employees by deploying flexible work modes (CIPD, 2014). As a result, it is nowadays hard to find an

organisational career web page that does not praise an employee-friendly flexible working culture. Many companies allow workers to freely schedule and organise their workday in order to fulfil both work and family roles in parallel (Matos and Galinsky, 2014). Despite these efforts, they are confronted with a constant increase of work stress among employees, with psychological health problems being one of the most common causes for long-term sick leaves (CIPD, 2014). Research on technostress has shown that information and communication technologies are a major factor contributing to this trend (e.g., Tarafdar et al., 2011). More recently, however, research also pointed out stress-relieving aspects of modern IT in general (Patel et al., 2012), as well as mobile IS (Duxbury et al., 2014) and mobile consumer IT in particular (Yun et al., 2012).

Interestingly, several organisations have deployed countermeasures that systematically intent to reduce flexibility by restricting technology use. The story of car manufacturer Volkswagen ran through the press when corporate leaders in accordance with unions decided that email access on smartphones will be disabled after hours (BBC News, 2011). Similarly, labour unions and corporate representatives in France have agreed on a daily “obligation to disconnect from remote communications tools” for eleven consecutive hours (Sayare, 2014). With the aim of achieving long-term performance gains, Daimler invented an auto-delete policy for all emails that arrive during holiday times of employees (Mohn, 2012). These measures, which are likely to be adopted by others soon, show that organisations have recognised a need for action. Years after the first cell phones appeared in the workplace, organisations apparently recognised that something has to be changed.

Several authors have attributed changes in work-life blurring to IT consumerisation, i.e., the increased diffusion of consumer IT in organisations. Yun et al. (2012) proposed an intensifying effect on boundary blurring and suggested that smartphones that are both used for personal and professional matters intensify the effect of blurring boundaries “by affecting more people and more work functions, and doing so more ubiquitously” (p. 143). Schalow et al. (2013) stated that emerging social media and mobile tools “can be seen as a catalyst in the ongoing blurring of work-life boundaries” (p. 10). Similarly, Sarker et al. (2012) noticed that in many sectors there is “an increasing need for ubiquitous access to systems and information” that increases work-life blurring (p. 143).

However, apart from a small number of initial studies, literature neither details on technological misalignments that are responsible for the increasing number of conflicts between work and private life nor points out technology aspects that facilitate work-life balance despite an increased work-life blurring. Duxbury et al. (2014) point out that there is a lack of insight why some employees are able to successfully manage work and life boundaries through mobile consumer IT, while others are not. Moreover, research lacks a clear distinction between, first, long-existing effects of mobile technologies as well as telework and, second, recent developments of IT consumerisation.

In this paper, we aim to understand the intensification of work-life blurring as well as resulting conflicts in more detail. More specifically, we want to point out situations and behaviours where the use of consumer IT at work facilitates or conflicts the fulfilment of individual preferences for work-life integration and segmentation. Thus, the research questions for our study are as follows:

1. What is the relationship between IT consumerisation on the blurring of boundaries between work and private life?
2. How does the individual preference with respect to integration or segmentation influence this relationship?

To address these questions, we draw on boundary theory and use individual preferences towards the relations between work and private life as conceptualisation for our study. Our study is embedded into a multiple-case study on IT consumerisation in four organisations.

The rest of this paper is structured as follows. First, we will define and describe the core themes of our study, namely work-life blurring, boundary theory, and IT consumerisation (Section 2). After

explaining our methodical approach (Section 3), we will present our case study findings in Section 4. The findings are aggregated to higher-level concepts, and then discussed in terms of potential generalisation beyond our area of enquiry in Section 5. The paper concludes with formulating limitations as well as implications for research and practice (Section 6).

## **2 Related work**

### **2.1 Blurring of work and private life**

Literature uses various terms to describe the relation between employees' work and non-work roles. One of the frequently used concepts is work-family conflict (or synonymously work-home conflict or work-life conflict), which has been defined as "form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" (Greenhaus and Beutell, 1985, p. 77). In practice, the term "work-life balance" has gained much attention. Hill et al. (2001) define work-life balance as the degree to which individuals manage to satisfy time and emotional requirements from both work and private life.

Work-life blurring has been defined as the "experience of confusion or difficulty in distinguishing one's work from one's family roles in a given setting in which these roles are seen as highly integrated, such as doing paid work at home" (Desrochers and Sargent, 2004, p. 41). Unlike work-life conflict and work-life balance, the term does not indicate whether a certain outcome is good or bad. Instead, it describes a current state that can be evaluated individually as either desired or unwanted. In this sense, work-life blurring may either lead to work-life conflict or work-life balance (Yun et al., 2012).

Research has extensively studied the influence of IT on work-life blurring and its consequences. Due to the central role of information technology in people's life, there are usually considerable electronic overlaps between the private and work realm (Dery and MacCormick, 2012; Moschella et al., 2004). Gant and Kiesler (2002) name three main characteristics of mobile technologies that foster work-life blurring. First, mobile technologies increase the likelihood of communication. Second, they are not tethered to location. Third, through their independence of location and control, mobile technologies reduce the constraints of time.

As regards negative outcomes of work-life blurring, i.e. work-life conflict, studies have found relationships, amongst others, to the use of IT in general (Ayyagari and Grover, 2011), mobile email (Bontis et al., 2011), and smartphones (Yun et al., 2012). Research that addresses spillover effects of technology use from work to private roles is rather sparse (Yun et al., 2012). As an exception, telework has been shown as enabler of work-life balance, since it provides employees with higher job flexibility (e.g., Hill et al., 2003). However, as a whole, research is inconclusive whether telework exerts positive or negative effects with regards to work-life blurring (Bailey and Kurland, 2002).

### **2.2 Boundary theory**

Boundary theory suggests that individuals vary in how much they choose to segment or integrate their various roles (e.g., work and private). Thus, individuals construct physical, temporal, or psychological boundaries to manage multiple roles in their lives. Regarding the work and private domain, every individual has its own preference regarding segmentation or integration, i.e. the boundaries can be strong to segment work and private life or weak, in case an individual prefers the integration of the domains (Ashforth et al., 2000; Clark, 2000; Nippert-Eng, 1996).

Findings with respect to boundary theory propose that a misfit between the preference of an individual and the culture of the organisation leads to less commitment and a lower level of satisfaction of the

employee (Rothbard et al., 2005). In this sense, the theory builds upon the “person-environment fit model” which is widely used in stress research (Edwards, 1991). According to the model, stress occurs if the relationship between the person and the environment is out of equilibrium. Kreiner (2006) transfers person-environment fit to the context of balancing work and private life. Therefore, there must be “a fit between preferred and perceived work-home segmentation” (Kreiner, 2006, p. 488). This fit perspective is rather neutral, meaning that integration of work and private domains is not inherently better or worse than segmentation.

Literature sees the chances for potential conflicts increasing when the lines between work and private spaces get blurred (Dery and MacCormick, 2012; Scheepers and Middleton, 2013). Consequently, clear boundaries between work and private spaces, i.e., segmenting work and private roles, are recommended in order to reduce role conflicts and maintain work-life balance (Edwards and Rothbard, 2000; Park et al., 2011). Ashforth et al. (2000) state that reducing the blurring between the roles is the primary benefit of work-life segmentation.

There is relatively little research on work-life integration and segmentation preferences with regard to information technology. Park and Jex (2011) found that boundaries people create around technology use in the work and private domain are beneficial for avoiding interferences between the two domains. Yun et al. (2012) discovered that work-life segmentation culture, i.e. an organisational culture that fosters strong boundaries between the work and private domain, can decrease work-life conflict with regard to smartphone use. By analysing the post-adoption of Blackberry smartphones, Duxbury et al. (2014) found that users struggle to realise a segmentation between work and life spaces due to a lack of self-discipline and self-control.

Researchers have emphasised that integration and segmentation preferences lie on a continuum, meaning that classifying workers into integrators and segmentors is invalid (Ashforth et al., 2000; Nippert-Eng, 1996). Instead, the same people might follow integration and segmentation preferences for different tasks and circumstances, even both at the same time. Moreover, perspectives change in the course of lives, depending on individual’s career ambition or family situation (Sarker et al., 2012). Hence, when used in this paper, the terms integrators and segmentors are always associated with particular behaviours in order to integrate or segment work and private life spaces.

### **2.3 IT consumerisation**

IT consumerisation has been defined as the professional use of IT tools that have been originally developed to target the consumer market (Köffer, Ortbach, et al., 2014). Thus, the term not only includes the use of hardware like smartphones and tablet computer but also focuses on software, such as social media or cloud storage services. IT consumerisation is widely seen as important trend that challenges traditional workplace concepts (Harris et al., 2012). While practitioner studies on the topic often present a rather positive picture of the consequences of IT consumerisation (Niehaves et al., 2012), academic studies have recognised both positive and negative impacts of IT consumerisation on work-life balance. Schalow et al. (2013) showed reciprocity of individual behaviours. For instance, workers that appreciate the occasional use of company provided IT for private purposes, are more likely to accept professional activities that invade into their private life. Niehaves et al. (2013) found that IT consumerisation facilitates the blurring of the boundaries between work and private life, and thus will create a need for work-life segmentation for many individuals.

Acknowledging the increasing control that individuals exert over their the private and the professional work system (Baskerville, 2011), the increased diffusion of consumer IT can not only be seen as catalyst of work-life blurring, but also as enabler for individuals to better align preferred needs and organisational requirements. In this sense, studies have started to investigate the potential stress-relieving role of consumer IT at work. Yun et al. (2012) note that both positive and negative impacts are “even greater given that the boundary between work and personal life becomes more blurred” (p.

123). Similarly, a study by Koch et al. (2012) revealed that boundary blurring enabled by social network sites creates positive emotions for the employees that use them.

More specifically, Yun et al. (2012) surveyed knowledge workers with respect to the use of the same smartphone for both private and work matters. While an increased productivity through smartphone use lessens work overload, this effect is offset by increased work overload from more flexibility. Thus, organisations should think about providing mobile applications that foster productivity, such as access to critical systems and data, rather than extending flexibility, e.g. by expanding the number of locations (Yun et al., 2012). Drawing on these findings, Köffer et al. (2014) investigated outcomes of “the use of a single IT device or application for both private and work activities” (p. 4). Thereby, it was shown that dual use significantly contributes to work-to-life conflicts, and that this effect is stronger for people that prefer a clear electronic separation of work and private life spaces.

In summary, there is initial evidence that IT consumerisation has promoted considerable changes in technology-facilitated work-life blurring and its consequences. To further investigate these changes, our conceptualisation of IT consumerisation in this study implicitly focuses on dual use of IT where private and professional spaces overlap. There are two perspectives on dual use that need to be distinguished. First, private IT tools are increasingly and dual used for professional purposes (Moschella et al., 2004). Second, business devices may also be used for private matters (Köffer, Junglas, et al., 2014). Both aspects of consumerisation may happen with or without permission of the organisation. Moreover, work-life blurring may result from the dissolving spatial boundaries. Through the increased diffusion of mobile (consumer) devices, it occurs more often that people use their company IT at home or, conversely, use the private IT at work (Schalow et al., 2013).

### 3 Research method

As part of a greater research project on IT consumerisation, we conducted semi-structured interviews with 53 employees (38 males, 15 females) in four German organisations during 2012 and 2013. We used a multiple case study approach, as multiple data collection methods were found to strengthen the robustness of results by triangulation of the findings (Eisenhardt, 1989). The different cases were selected in order to deliver contrasting results, however, they were also used to replicate findings across distinct organisations and industries (Orlikowski, 1993). Our study is rather descriptive in nature, focussing on contemporary events in a real-life context with regard to existing theory (Yin, 2009). As regards our ontological and epistemological assumptions, we follow an interpretative approach with the aim to understand the phenomenon of intensified work-life blurring through mobile consumer IT in more detail. Thereby, we use boundary theory as part of an iterative process of data collection and analysis (Walsham, 1995).

Data collection started in a mid-size industrial manufacturing company (pseudonym: INDUSTRY) that was selected due to its efforts to introduce smartphones and tablet computer into daily work routines. Before, INDUSTRY leaders had realised that employees were more and more bypassing official IT guidelines and brought privately-owned IT into the firm. As a consequence, INDUSTRY initiated a pilot project where suitable employees, such as executives and sales representatives, were equipped with company owned devices. Interviewees were recruited from participants of the pilot project and IT staff. To have a second case that predicted contrasting results (Yin, 2009), we selected a consultant organisation (CONSULT) with higher maturity regarding consumer IT use. At CONSULT almost every employee was provided with consumer IT in form of smartphones and a laptop computer. Moreover, employees were granted administration rights on company provided laptops so that they could use them easily for private purposes. Consultants and consultant manager were recruited as interviewees.

As third and fourth organisations, two public sector organisations were selected. Public sector organisations are generally considered to be lagging behind industry in terms of consumer IT adoption (Dell and Intel, 2011; Niehaves, Köffer and Ortbach, 2013) and use of mobile applications (Trimi and Sheng, 2008). In this respect, they complement the first two cases, as consumer IT use is usually subject to additional constraints and regulations. While the first public sector organisation (PUBLIC1), an administration of a city with around 150,000 inhabitants, had deployed a pilot project to distribute consumer IT similar to INDUSTRY, the second organisation (PUBLIC2), an administration of a district with around 100,000 inhabitants, had not yet started to issue company owned consumer IT. However, the introduction was planned in the near future, so that interviews served as important source of information in terms of the requirement analysis. Interviewee selection in the public sector organisation focused on department heads and members of IT staff.

In summary, our data set includes professionals across hierarchy levels. 42 interviewees worked in the business department, and 11 interviewees were part of the IT department. IT staff members were considered to have a double role as they were both using and administrating consumer IT. Consequently, they were also asked questions that required them to extrapolate from their own perceptions to understand frequent use behaviours of consumer IT in the organisation. Table 1 provides an overview about the four organisations, conducted interviews, and interviewee roles.

Organisation	Description	Interviewed departments (Count)
INDUSTRY	Industrial manufacturer	Management (5), IT (4), Sales (4)
CONSULT	IT Consultancy	IT-Consultants (6), Accounting (1), IT (3)
PUBLIC1	City administration	IT (1), HR (3), Administrative service (3), Department heads (6)
PUBLIC2	District administration	Delegates of the county council (5), Building authority (4), Assistants of the state parliament (4), IT (3), Department head (1)

Table 1. Information about the conducted interviews

The semi-structured interviews were recorded and transcribed for analysis and lasted between 45-60 minutes. However, later parts of the interviews were not related to work-life blurring – and thus were out of scope for this study. As a result, such transcript parts were excluded from analysis so that in total around 25-30 minutes of interview time was relevant for this study. During the interviews, mainly open questions were used to gather a variety of opinions and to be able to generate constructs out of the open data during the analysis (Creswell, 2007). Interviews started with general questions about the role and professional tasks of the employees and their regular IT use to fulfil these tasks. Moreover, employees were asked openly about their experiences with consumer IT. For instance, we asked questions like “Which advantages or disadvantages do you see related to the usage of private IT for business purposes?” In the course of the interviews questions focused more on the topic of work-life blurring, for example by asking questions like “To what extent and how are you performing work tasks outside the normal working hours, e.g. at the weekend or during holidays?” as well as “Which impact has consumer IT on the blurring of the boundaries between your work and private life?”

Using the techniques of grounded theory building (Charmaz, 2014; Strauss and Corbin, 1998), we conducted an iterative textual analysis. We do not claim having followed a strict grounded theory methodology but rather a case study method that adopted useful grounded theory analysis techniques (Urquhart and Fernández, 2013). For instance, we intensively moved back and forth between the empirical data collected and theoretical concepts (Glaser and Strauss, 1967). In doing so, we intended to understand the consumer technology use of the respondents with regard to work-life blurring. More specifically, we used open coding to systematically analyse the transcripts, using multiple investigators (Klein and Myers, 1999). Interviews of the INDUSTRY case were analysed before collecting the data of the other cases, so that the two steps partly overlapped (Eisenhardt, 1989). Coding progressed from observations in the interviews that seemed salient to articulate analytic

categories. Throughout the multiple rounds of reading and coding the interviews, we strove to remain close to the notion of IT consumerisation by always associating the described behaviours with our conceptualisation of dual use of consumer IT. The resulting themes were discussed in relation to their role in creating work-life conflict or work-life balance. An overview of open codes related to the themes can be found in the appendix. A cross-comparison between the four cases is not within the scope of this paper. This has been analysed in a previous study (Niehaves, Köffer and Ortbach, 2013).

## 4 Findings

We will present our findings along the continuum of work-life integration and segmentation preferences. Thus, we will distinguish between situations where respondents tried to integrate or segment work and private life spaces. Exemplary quotations from the interviews will be used to illustrate the conflicting and balancing aspects of consumer technology.

### 4.1 Work-life integration preferences

In case of mobile workplaces, electronic work-life integration facilitated traveling and communication. Consultants, who spent the whole working week at the customer site, often wanted to fulfil private activities during that time. An employee from CONSULT appreciated being able to use company equipment for this:

*“We don’t have the typical 9-to-5 working hours. We work late and travel a lot. It is allowed to use the corporate hard- and software not only for work, but also for private activities. Our boundaries [between work and private life] are blurred anyway. That’s why the company provides me with everything I need.”*

While INDUSTRY and CONSULT permitted the use of company issued laptops for private matters on business trips, employees nevertheless sometimes preferred to use a privately owned laptop. For one respondent at INDUSTRY, company laptops were too cumbersome to use. Thus, the employee felt obliged to carry a private laptop as well.

*“I always have to carry two things, if a want to do private stuff in my working time. In the evening, I have time to do such things, but with my [company provided] computer, I can only check emails and surf the web. This doesn’t satisfy me.”*

As regards teleworking, remote access to corporate communication seemed to be an important enabler for time-based work-life integration. While this remote access to corporate data has arguably become the norm in consulting companies, other industries still struggle with it. An employee from PUBLIC2 explained that it is difficult to work from home, since remote access is limited:

*„We have a really strong firewall at work. Therefore, remote access from home is almost impossible. The only exception is the email system. [...] However, with big email attachments, everything can become quite cumbersome.”*

Within our dataset powerful consumer IT was reported to be common in the respondents’ households. Thus, IT consumerisation facilitated teleworking. One respondent from PUBLIC2 even deliberately scheduled work tasks in the evening if their private IT at home allowed them to be more efficient:

*“On business trips, I don’t want to use the small, inconvenient smartphone to check my mails. Therefore, I use my private computer back at home in the evening.”*

Working while on holiday was another example for extended time overlap between work-times and off-times. Our data showed that consumer technologies and remote access facilitated such behaviours. Integrators actively defended the use of consumer IT during holiday time for work, since it overall



reduced their work stress. Thus, employees deliberately started reading work emails before they returned to work after an absence period. A PUBLIC2 employee stated:

*„I have the opportunity to deactivate my email synchronisation when I'm on vacation. But I don't do it. [...] At the end of my vacations, my thoughts focus more and more on work again. Then, it is easier to get into work again smoother. This way, you aren't shocked when you come back to work and your desk is full of stuff to do.”*

The case data suggested that the decision whether to electronically integrate work and private life can be just driven by personal preferences. If people perceived their private IT to be more convenient than the IT provided in the organisation, they often also used it for professional purposes. Blurring of the boundaries was rather a side effect. A manager from INDUSTRY explained:

*„Usually I have a Nokia at work. But two years ago, I exchanged it for a private iPhone. Now I'm using this iPhone for business purposes.”*

At PUBLIC1 and PUBLIC2, the use of private IT was clearly prohibited. However, in the course of PUBLIC1's pilot project, selected employees had the chance to get company provided smartphones. Nevertheless, not all employees embraced the idea. For instance, one respondent did not participate due to personal vendor preferences.

*„I don't use the business iPhone, although it is the standard in our department. I'm not a fan of Apple. This is my personal opinion.”*

In any case, smartphones played an important role in terms of work-life integration, since they offered a couple of features for integrating both work and private life spaces. For instance, users synchronised their private and business calendar on the same device. A human resources employee of PUBLIC1 described the advantages:

*„I am using a joint calendar [with private and business appointments]. Especially when I'm on business trips, I can check immediately whether I have time or not. I want flexible working hours. Therefore I transfer all important business appointments to my personal calendar on my smartphone.”*

## **4.2 Work-life segmentation preferences**

Employees that strived for segmentation between work and private life spaces intended to maintain a strong electronic boundary. Some argued that the best way to achieve this is to use different devices for private and professional purposes. An IT staff member from INDUSTRY stated:

*„I have a Blackberry and an iPhone. Therefore I can separate my private and business communication and I can use the advantages of both.”*

Several respondents considered carrying two devices, one for private and another for professional purposes, as a burden for efficient working. One PUBLIC1 employee criticised that the organisation had not offered efficient means to bring work and private life together on one device. Thus, he drew the conclusion not to maintain clear boundaries in terms of reachability.

*I don't want to walk around with two cell phones, one private and one corporate one. As long as there is no good solution, for example two different numbers on one SIM card, or two SIM cards, I will not be available for work calls [on my private cell phone].*

Even if distinct hardware was used, the clear separation could sometimes not be maintained, if respondents used the same online accounts on both devices. The use of multiple accounts for the same application was restricted by license and use regulations of the providers. Further, handling of multiple accounts was perceived difficult as described by an employee of PUBLIC1:

*„I have also private social media accounts. (...) It is cumbersome to log out and log in again, just for posting with the right account. If I do this on my smartphone, it would take five minutes.”*

None of the case organisations had yet invested in mobile device management software in order to manage device use throughout the company. A consultant from CONSULT would have liked a feature on the smartphone to allow easy containerizing of private and professional contents:

*“I think they must change something with the software, for example, enabling two profiles [for private and business] so that users can easily switch between them.”*

Employees that used two distinct devices to maintain clear electronic boundaries between work and private life were also susceptible to implicit work-life integration due to poor IT equipment provided by the company. When respondents thought that their privately owned IT offered the opportunity to conduct the same work faster and more efficient, they were tempted to use it for work, abandoning their device segmentation preference. For example, a sales representative of INDUSTRY reacted to missing internet access on business trips by privately buying a smartphone:

*„I bought an own smartphone for the use at work, because I need Internet on the way and the company mobile phone is very restricted. I had to buy the device and all that just for the purpose to surf in the web when I'm not at my workplace.”*

## 5 Discussion

The case data suggested that IT consumerisation considerably influences in how far people can realise their preference regarding the blurring of work and private life. Members of different organisations described a lot of similar situations. Thus, we argue that our findings are generalizable beyond our area of enquiry (Glaser and Strauss, 1967). More specifically, in situations where people strive for integrating work and private life spaces, we are able to identify three aspects related to IT consumerisation, namely, 1) dual use of company IT for private tasks, 2) dual use of private IT for work tasks, and 3) remote access to work data. Regarding situations where people strive for segmenting work and private life spaces, we identify three additional aspects, namely 1) distinct devices for private and work purposes, 2) separate private and business accounts, and 3) quality of company provided IT. Table 2 and 3 show that the consumer IT aspects may either create work-life balance or work-life conflict dependant on people’s wish to deal with intensified boundary blurring between work and private life, and the adoption of consumer IT in the organisation.

Balance	Consumer IT aspect	Conflict
Allowed and convenient (10)	Dual use of company IT for private purposes	Not allowed or inconvenient (4)
Allowed and convenient (16)	Dual use of private IT for work purposes	Not allowed or inconvenient (16)
Possible and convenient (27)	Remote access to work data	Impossible or inconvenient (21)

*Table 2. Balance and conflict of work-life integration preferences by consumer IT (in brackets: number of associated open codes)*

The opportunity to use the same IT for work and private tasks has become crucial for many individuals to fulfil their work-life integration preferences. Companies that do not allow the use of company IT for private purposes will most likely cause integrators to bring their own system to the workplace and on business trips. This is one of the reasons why dual use of company provided IT is usually allowed. In contrast, there is often no permission for using privately owned IT for work since organisations fear drawbacks in terms of support complexity and data security (Niehaves et al., 2012). Figures on how many organisations support privately owned IT vary considerably and are depending

on the industry sector and type of knowledge workers surveyed (Bradley et al., 2012; Forrester, 2012). From the perspective of integrators, privately owned IT promises the complete electronic unification of private and work contents. Thus, it is not surprising that examples from the case showed that individuals even acted on their integration preferences by investing their own money for buying IT to be used for work tasks. As a result, pursuing work-life integration most likely contributes to the use of privately owned IT in the workplace that is not formally approved by the organisation.

Dual use of private IT is enabled by remote access to work data and systems. Our case companies showed different maturity levels with respect to remote access. While INDUSTRY and CONSULT enabled access to various corporate systems, PUBLIC1 and PUBLIC2 restricted remote access to email communication. Workers will naturally be hindered to accomplish complete work-life integration if certain systems can only be reached from office computers. Meanwhile almost every enterprise system vendor has put consumer IT apps on the market (sometimes cloud-based) that allow access from outside the company walls. Thus, the proliferation of consumer IT has considerably increased the opportunities to access company data from anywhere (Prete et al., 2011).

Balance	Consumer IT aspect	Conflict
Convenient (4)	Distinct devices for private and work purposes	Inconvenient (2)
Convenient (4)	Separate private and business accounts	Inconvenient (7)
Satisfying (7)	Quality of company provided IT	Not satisfying (34)

*Table 3. Balance and conflict of work-life segmentation preferences by consumer IT (in brackets: number of associated open codes)*

For segmentors, dual use of one device or application is not favourable. Instead, workers use distinct devices to have an unquestionable separation between work and private life spaces. The case data suggested that, on the one hand, people successfully managed to use distinct devices but, on the other hand, were sometimes annoyed of additional efforts of data integration or carrying around additional stuff such as chargers or phone accessories. For example, we observed situations where employees only reluctantly accepted to use a single device for both work and private life matters, since a separation of devices was inconvenient or caused too much effort.

Throughout the data analysis, the notion of convenience often emerged as an important concept. Even when working in a laissez-faire environment with open policies regarding IT use and selection (Harris et al., 2012), employees will not be able to fulfil their preferences as long as its realisation is perceived as cumbersome or inconvenient. For instance, a privately owned laptop that requires company approved applications to login to enterprise systems will interfere with employees' expectation to have a seamless interplay between private and company IT. Similarly, remote access from private devices that is perceived as slow and unreliable leaves integrators dissatisfied. This finding relates to the high importance of usefulness in case of voluntary technology adoption (Wu and Lederer, 2009). In the literal sense of the term, employees can take a role of consumers of enterprise technology (Moschella et al., 2004). Thus, they will carefully select when to use other technology than those provided by their organisation (Ortbach et al., 2013), either because company IT is inconvenient or just not available.

Interestingly, it is often a mix of certain technology aspects that constitute the intensifying effect of IT consumerisation on boundary blurring. Working on holidays is a perfect example in this context. Many employees will probably still refuse to take along a company issued device on vacation. However, enabling remote access and a tolerance for "bring your own device" creates the implicit chance to work at any time and from anywhere. Consequently, since technological boundaries dissolve, people must build up mental boundaries to maintain work-life separation. In other words, managing technologies has become a cornerstone in managing work and private life (Groysberg and Abrahams, 2014). It seems, however, that many individuals are not able to cope with this task and, more than necessary, are reachable via technology for work-related issues outside regular working

hours (Witters and Liu, 2014). More specifically, our findings suggest that the group of “always at work” employees does not only contain integrators, but also segmentors that are not able to realise their work-life segmentation preference any more.

## **6 Conclusion**

In this study, we investigated the current use of consumer IT in organisations in relation to the increased blurring between work and private life. We identified several situations where IT consumerisation either balances or conflicts the realisation of individual preferences regarding work-life integration or segmentation. More specifically, we found six technology-related aspects that explain the intensifying role of IT consumerisation with regard to blurring boundaries between work and private life spaces. In doing so, our study sheds further light on both chances and challenges that consumer technology puts on individuals in terms of managing blurring boundaries.

Practitioner literature formulates contradicting recommendations how to manage blurring boundaries. While some authors promote work-life integration, i.e. work-life balance is not considered as desirable objective (Friedman, 2014; Sarker et al., 2012), others suggest building up and maintaining clear boundaries (Perlow and Porter, 2009). Despite what people intent to achieve, both approaches are sometimes not technologically feasible. For instance, technical issues, such as inconvenient remote access or missing support for privately owned IT, prevent a better integration. On the contrary, the increased importance of IT in peoples’ lives naturally spills over into the work domain (Baskerville, 2011). Our findings suggest that IT consumerisation moved the standard culture for work and private life blurring further towards integration than segmentation, i.e. respondents who wanted to maintain clear boundaries had to make additional effort.

### **6.1 Limitations**

Qualitative research is naturally limited due to its interpretative character and potential biases brought in by the researchers and the methodological assumptions. For instance, our sampling strategy did not allow us to identify clear variations across the participants in terms of dimensions such as age, gender, or technological skill level. In particular, most of the respondents were rather skilful with technologies compared to their co-workers. Moreover, since we relied on interviews as single source of data we did not entail observation of work routines, which would have been likely to uncover additional and more objective balancing and conflicting situations.

Moreover, our study only marginally considers other important behavioural antecedents, such as the social environment of the respondents. Several respondents explained that an overuse of consumer IT after work hours, i.e. work-life integration, would likely conflict with their family roles. In contrast, an underuse of consumer IT might conflict with a work-life integration culture of their employer. It is likely that the increased diffusion of consumer IT impacts expectations on workableness and reachability. Future research may take up this point to further develop existing studies about the impact of IT consumerisation on the relation between work-life segmentation culture and preferences.

### **6.2 Implications and Outlook**

The number of identified conflicts in this study suggests that there is still a lot of potential for software vendors and user companies to make the management of blurring boundaries more feasible. Cousins and Varshney (2009) provide a list of guidelines for computing systems that support work-life balance. At the same time, research yet lacks providing clear recommendations, because the outcomes of a misfit between technological preferences and actual behaviours are still unclear. Future research

may juxtapose the negative effects from intensified electronic blurring of work and private life, such as work exhaustion, with positive effects, such as productivity and flexibility gains.

For instance, the importance of email communication on the job has not considerably decreased yet – on the contrary, further increases are expected (Radicati, 2014). It is most likely no coincidence that the technical restrictions applied by Volkswagen and Daimler directly target the reduction of email traffic within the company. In fact, reducing incoming emails to recover from information overload is an important topic in practice since many years (Barley et al., 2011). Only recently, market leaders IBM, Google, and Microsoft all promised that their new email software applies automatic inbox filtering by means of machine learning in order to separate important from unimportant messages.

Research has acknowledged the special role of email (Barley et al., 2011), and its ambiguous outcomes in both relieving and demanding employees (Mazmanian et al., 2013; Middleton and Cukier, 2006). However, aforementioned studies use rather outdated empirical data from Blackberry users in the early and mid-2000s. Compared to the proliferation of Blackberries, today's consumer IT is not confined to a relatively small group of workers, but triggered ubiquitous mobile email usage at all hierarchical levels (Yun et al., 2012). However, studies that investigate the consequences of email or communication overload in the light of IT consumerisation and individual preferences are yet missing.

Furthermore, developing processes and tools to enable the efficient collaboration of workers with distinct preferences about the blurring of work and private life will be of great value. Thus, conflicts also arise from the interaction between people that have different perspectives on work-life blurring (Sarker et al., 2012). With electronic work-life integration becoming more and more feasible, segmentors might be exposed to critical comments when maintaining clearly visible boundaries, for example if they not put longer hours to be available beyond integrators expectations (Mulki et al., 2009). In other words, solutions that foster work-life segmentation must be carried out without questioning the organisational commitment of those that use them.

Universal approaches, such as deployed by Daimler and Volkswagen, or contrary approaches that promote the interconnection of work and private life, will push employees towards either integration or segmentation of their work and private life spaces. With respect to boundary theory, those practices aimed at helping employees to manage boundary blurring can best address parts of the workforce (Sarker et al., 2012). Furthermore, IT consumerisation has increased employee's demand to be self-responsible for selecting IT tools and managing personal boundaries (Dery and MacCormick, 2012; Junglas et al., 2014).

Measures are required that better target individual preferences. The most promising strategies will directly interact with consumer IT in order to counteract the problems directly where they are further intensified. For example, integrated apps installed on the smartphone and laptop or as part of mobile device management software could enable individuals to manage work-life blurring in a self-determined way. More theoretical and empirical research is required to further validate these assumptions, with the ultimate goal to increase peoples' productivity and well-being at the workplace. We hope that our paper provides a step towards this pretentious goal.

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## Appendix: Overview of open codes

Consumer IT aspect	Open codes for balance	Open codes for conflict
Dual use of company IT for private purposes	company devices for private purposes; dual use of company hard- and software allowed; entire work IT can be used for private purposes; Private calls with company mobile on journeys allowed	carrying different devices, because prohibited private use; carrying two devices on business trips for doing private tasks; separation of hardware, because business smartphone is not satisfying
Dual use of private IT for work purposes	dual use of private iPhone for business purposes; dual use of private smartphone, one calendar for business and private appointments; redirect business calls to private smartphone; usage of private features on business trips through private smartphone;	business emails cannot be received on private smartphone; business emails on private smartphone not allowed; private smartphone cannot be used for work purposes due to security reasons; usage declined due to provider preference; usage of private devices not allowed
Remote access to work data	access to all accounts from home; devices and router for homeoffice employees; manage tasks independent from workplace; notebook can be used for work purposes at home; possibility to access work emails at home; reading emails during vacation facilitates comeback to work	access from home almost impossible; external access only with special notebooks; home office depends on internet connection; workplace at home has to satisfy security regulations

Table 4. Exemplary open codes for work-life integration preferences

Consumer IT aspect	Open codes for balance	Open codes for conflict
Distinct devices for private and work purposes	separation of work and private life through two smartphones; strict separation of work and private mobile phone possible	carrying two devices on business trips too inconvenient, therefore need for dual use of company IT; only reachable on business trips with carrying two devices
Separate private and business accounts	business and private account for Dropbox; mobile phones with two profiles useful; possibility of business accounts on Facebook	separation more and more difficult, e.g. through social networks; two accounts on Facebook inconvenient; usage of private Skype account for business purposes
Quality of company provided IT	choice between four brands for business smartphone; liberties on business IT to avoid inconsistency with private IT; no regulations for software on business laptop; right to say for employees for IT choice	full costs for private IT for employees; no internet connection on business smartphone, therefore usage of private smartphone; usage of private software for work purposes partly illegal, but necessary; usage of private software, because company cannot provide similar software

Table 5. Exemplary open codes for work-life segmentation preferences