Boon and Bane of IT Consumerization: The Burnout-Engagement-Continuum

Completed Research Paper

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ABSTRACT

IT consumerization refers to the diffusion of consumer IT in the workplace and is considered to influence work processes in organizations. While several studies provide evidence that IT consumerization can create significant value for an organization, Volkswagen and Daimler recently applied restrictions for consumer IT use to prevent stress and burnout consequences. Analyzing the existing IS studies about stress outcomes, it is interesting to note that stress-reducing effects of IT are rarely considered. Thus, the foremost negatively associated relationship between IT and stress contradicts to the mostly positive perceptions of IT consumerization. Drawing on psychological burnout literature, we investigate individual factors that influence the effects of IT consumerization on burnout and engagement. To this end, we conduct a case study in a public sector organization. Our findings provide individual constructs that position IT consumerization effects along the burnout-engagement continuum.

Keywords

IT consumerization, consumer IT, stress, burnout, engagement, case study, qualitative research

INTRODUCTION

IT consumerization, defined as the diffusion of consumer Information Technology (IT) in the workplace, inevitably influences the way of working in organizations. It is associated with more mobile, flexible, and autonomous employees. Several studies provide evidence that IT consumerization can create significant value for an organization due to increased employee productivity and satisfaction (Dell and Intel, 2012; Harris, Ives, and Junglas, 2012). However, there seems to be a downside to unrestricted mobility and email access. Recently, two international corporations, Volkswagen and Daimler, applied restrictions for consumer IT usage for work purposes, accepting potential productivity losses (BBC News, 2011; Daimler AG, 2012). Both companies justify the measure with a prevention of possible stress and burnout consequences.

Existing literature on IT consumerization focuses either on the organizational perspective or on mainly positive effects for individuals (Niehaves, Köffer, and Ortbach, 2012), for example increased user satisfaction (Harris et al., 2012). One example is a study by Dell and Intel (2011) that discusses potential negative consequences for individuals in terms of stress. Looking at the IS literature, numerous recent studies support this relationship and have investigated stress with respect to new and modern IT. Here, technostress became an established term to describe the inability of people to adapt or cope with new technologies due to their ubiquity and the resulting constant connectivity (Tarafdar, Tu, Ragu-Nathan, and Ragu-Nathan, 2007). Other studies related IT stress effects to turnover intention (Moore, 2000), or decreasing job satisfaction (Ragu-Nathan, Tarafdar, Ragu-Nathan, and Tu, 2008; Rutner, Hardgrave, and McKnight, 2008; Tarafdar, Tu, and Ragu-Nathan, 2010). However, analyzing the existing IS studies about stress outcomes, it is interesting to note that stress-reducing effects of IT are rarely considered. Thus, the foremost negatively associated relationship between IT and stress contradicts to the mostly positive perceptions of IT consumerization. Similarly, Patel, Ryoo, and Kettinger (2012) propose a dual role of technology related to stress, thereby considering both stress inducing and stress reducing outcomes of IT. However, empirical evidence for this dual role, in particular effects on employee engagement, is yet lacking. Furthermore, the specific effects of IT consumerization have not yet been sufficiently covered by current research.
Based on this background, our study aims to close this research gap. Drawing on psychological burnout literature by Maslach and Leiter (2008), we conducted a case study to answer the following research question:

**What are individual factors that influence the effects of IT consumerization on burnout and engagement?**

The remainder of this paper is structured as follows. First, we develop a theoretical framework for our empirical investigation, drawing on psychology literature. After explaining our method in detail, we present our case data and findings. The paper concludes with a discussion of individual factors that influence stress or engagement outcomes.

**FRAMEWORK DEVELOPMENT**

In their cognitive model of stress, Lazarus and Folkman (1984) describe that stress is the response of an individual to a given stimulus. These stimuli, which create a stressful situation, are called “stressors” and may be perceived differently by individuals (Kahn and Byosiere, 1992). The psychological relationship between people and their work has been conceptualized as a continuum between burnout and engagement (Maslach and Leiter, 2008). While burnout is seen as a psychological syndrome to prolonged stressors, engagement has been defined as the positive opposite of burnout (Maslach, Schaufeli, and Leiter, 2001). Summarizing several studies about organizational risk factors that could be valid predictors of burnout, Maslach and Leiter (2008) derived six key domains of the workplace environment: workload, control, community, fairness, values and rewards. These factors are well established in psychological research, however, IS literature has not yet addressed their relevance for the IS domain in general or IT consumerization in particular. While there are several studies that use similar constructs, a comprehensive approach taking into account all factors is still missing.

Table 1 shows ten relevant studies that we could identify through a review of stress-related publications from IS top basket. All studies included the key domain workload. As a stressor, workload refers to overload individuals perceive because job demands exceed their human limits. The overload is either quantitative, when there is a lack of resources for a task, or qualitative, when the individual is missing skills to meet the requirements. Both types contribute to burnout because people fail to meet the demands of the job (Maslach and Leiter, 2008). Already Li and Shani (1991) used workload and autonomy, a variable similar to control, in their model to identify stress dynamics of IS. Control describes the authority individuals have, “to do their work in what they believe is the most effective manner” (Maslach and Leiter, 2008, p. 414).

In the context of technology work, Moore (2000) took up the idea and showed that overload and a lack of autonomy contribute to exhaustion. Furthermore, he used the additional stressor constructs role conflict and role ambiguity. Role conflict has a direct connection to control because it inhibits an action, whereas role ambiguity (the absence of clarity about the responsibilities) may also enhance control aspects by providing the freedom (Maslach and Leiter, 2008). The study by Moore (2000) also included fairness and rewards as stressors and was later replicated by Ahuja, Chudoba, Kacmar, McKnight, and George (2007) and Rutner et al. (2008), who both used the same set of stressors in their models. All three studies used a joint consideration of fairness and rewards that was conceptualized primarily in terms of financials, i.e. salary of employees. We found no studies that related the construct to questions of IT provision and IT equipment of individuals.

Community is defined as the social interaction at work with coworkers and supervisors (Maslach and Leiter, 2008). While no studies from the IS top basket include an explicit community construct, several concepts are used that also affect the social interaction at work. For instance, Pawlowski, Kaganer, and Cater (2007, p. 622) establish the construct of interpersonal issues referring to “the quality of social interaction within teams, and friction between IS and users”. Moreover, Ragu-Nathan et al. (2008) describe literacy facilitation as technostress inhibitor, referring to teamwork and inter-personal relationships.

In the burnout and engagement context, values are defined as “ideals and motivations that originally attracted people to their jobs” (Maslach and Leiter, 2008, p. 501). As soon as there is a gap between organizational and individual values, people will move further from engagement to burnout in the continuum. Values have been considered in IS stress research with respect to organizational commitment as technostress inhibitors, among other aspects referring to “a great deal of personal meaning” the organization has for the individual (King and Sethi, 1997; Ragu-Nathan et al., 2008, p. 427). Moreover, other studies have addressed specific values that determine job choice such as work family conflict (Ahuja et al., 2007; Ayyagari and Grover, 2011; Pawlowski et al., 2007).

Our analysis of the identified studies with respect to the key domains of the workplace environment (Maslach and Leiter, 2008) is summarized by Table 1. Workplace stressors within the IS top basket literature. It reveals two obvious lacks that we target with our empirical study. Firstly, no study has considered all key domains together. Even if we enlarge our focus beyond the IS top basket, there is no evidence of a comprehensive analysis. Secondly, all of the studies interpret the key domains in a negative sense as potential stressor, instead of associating also positive aspects in respect to engagement.
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Table 1. Workplace stressors within the IS top basket literature

**METHOD**

In order to identify individual factors that influence the effects of IT consumerization with respect to the burnout-engagement continuum, we selected a qualitative research approach in form of a case study. Considering the aforementioned research gap, such factors need to be explored in a real-life setting. We argue that our qualitative approach is appropriate as we want to understand the settings in which participants address IT consumerization and somehow, “follow-up quantitative [stress] research and help explain … linkages in causal models” (Creswell, 2007, p. 48).

Our case setting is a public sector organization where we find a mixture of tech-savvy employees and more conservative employees that are sceptical towards consumer IT. We selected the specific organizations which had recently started a pilot project to distribute consumer IT in form of smartphones and tablet PCs among executives. Overall, the administration has more than 2000 employees and more than 100 occupational fields of civil service. Interviewees were chosen to have both heterogeneous hierarchical roles and differing levels of IT affinity. Moreover, they came from different departments (such as controlling, finance, culture, civil services, human resources, and IT). The selection of interviewees included participants of the pilot project, i.e. executives that were using consumer IT for work purposes. All interviews were semi-structured with pre-defined questions related to consumer IT in the workplace. The average duration per interview was about 45 minutes. Every interview was transcribed, leading to more than 60,000 words of transcript.

For our data analysis we used an approach based on the recommendations for open coding by Strauss and Corbin (1998). For the purpose of data analysis, we used the key domains of the workplace environment as a-priori construct for open coding to measure constructs more accurately. This is considered valuable as it can “help to shape the initial design of theory-building research” (Eisenhardt, 1989, p. 536). By using deductive thinking, we constantly checked the case data against our framework. For this purpose we adapted open coding methodology and went through the transcribed data on row level. We concede that our adoption of grounded theory methodology is not completely in line with its original purpose (Urquhart, Lehmann, and Myers, 2009). However, we argue that our procedure is appropriate as our study focuses more on identifying new constructs and relates them to existing and very comprehensive psychological theory. To ensure nevertheless a creative potential and convergence of observations we used multiple investigators during the whole qualitative research process (Eisenhardt, 1989), i.e. interviews were conducted by three researchers together, of which two were also involved in data analysis. Data collection also overlapped with data analysis, what allowed the researchers to make adjustments during the data collection process.

**FINDINGS**

Based on the six key domains described in chapter 2, the case data offers a sophisticated range of opinions regarding the impact of IT consumerization. We present our findings by mentioning the most prevalent insights from the interviews, supported by exemplary statements.

In summary, our case data demonstrates the relationships and delivers examples for four of the six domains. For the often combined domains of fairness and rewards, statements about influences on IT consumerization on fairness are rare. Although
some employees complained about the inequalities of the IT equipment, enviousness, insufficient reward, or a lack of fairness were not mentioned as a real problem in the administration. Figure 1 summarizes the findings.

Figure 1. Stressors and their relationship to stress and engagement

**Workload**

We found several statements in the data that the use of consumer IT can lead to an increased workload. Due to the ubiquitous access to technology people get used to faster response times and interaction. However, speed gains might diminish due to higher workloads and induce stress for people that do not have the IT capability to handle this. One employee stated:

“It is somehow expected that emails will be read immediately. I think that many people can’t handle that. In the end [consumer IT] will make work easier, but also generate more work, as everything is faster.”

Similarly, employees mentioned the additional effort required to filter the correct information out of the increased amount of available data. If employees are not able to filter the correct information, they will probably be confronted with exhaustion due to information overload. Employees that already use consumer IT for work purposes, often work outside regular work hours. They stated to have problems to relax after work, even on weekends or holidays. A human resources employee thought about the situation in the near future and weighed up positive and negative aspects:

“I would be permanent busy with work. Around the clock, even on weekends. I wouldn’t have any distance to work. On the other hand, I have the certainty that everything is fine, because I am always informed. But in the long run, permanently having consumer IT around won’t be good.”

Respondents perceived interferences to their personal life from work and believed that this would get worse through the diffusion of consumer IT. The increased degree to be available for the company was seen as clear drawback of consumer IT. However, only one of the respondents explicitly rejected a device provided by the organization for that reason. For the most part, employees appreciated flexible work as stress-reducing.

**Control**

Typical for a local government setting, respondents evaluated the organizational guidelines as rather strict. Employees have little choice regarding the IT equipment they use and every new IT request has to go through a tedious approval process. Similarly, the daily work routines leave only little space for autonomy. While this sounds relaxed from a stress perspective, employees have different beliefs of work flexibility. A human resources employee stated:
“The organizational culture in the administration concerning the work schedules has grown over a long period of time. But going to work at 7am, having lunch at 12am and going home at 4pm every day is somehow stupid nowadays. But I have many colleagues that appreciate the fixed schedules, so that this will be difficult to change.”

Executives that were part of the pilot program confirmed that they could reduce their stress level through more flexible working. The diffusion of consumer IT, in particular mobile devices, with access to professional IT systems would naturally support this. As executives carry more responsibility, it seems plausible that they want to be informed all the time.

Similar to the workload domain, in particular for low-level employees, the flexibility offered by consumer IT is seen as a two-edged sword. Besides the potential temptation to work longer hours, the enhanced control breaks up the clear line between private and work life with the danger to affect the personal well-being. The use of smartphones was seen as a potential mediator for the shift of working time into personal time. An assistant of a politician noted:

“This smartphone is boon and bane. It has the advantage that I can answer work requests and forward them from home. But it also has the disadvantage that the clear bounds are no longer given. If I receive messages with negative content before I go to bed, I cannot sleep well anymore. That’s why I force myself not to look at the smartphone in the evening.”

As regards the dimension control, strict IT guidelines were not perceived as inhibitors, because respondents acknowledged the necessity to protect citizen data. It was striking that even tech-savvy respondents expressed a very balanced opinion about the pros and cons.

Community

Respondents saw several far-reaching consequences the diffusion of consumer IT has on the relations between employees. Some employees claimed that modern IT would lead to a better working environment with more social interaction among employees and faster responses on inquiries. Other employees value personal communication higher. One of them noted that missing direct conversations can be less productive:

“Communication via email does not replace the personal conversation or negotiation. That’s why emails often lead to more communication and more communicating. (...) Some years ago, that was different.”

As emails are not considered consumer IT, the relationship remains fuzzy. However, consumer IT that supports pervasive email communication like smartphones or tablets will most likely not contribute to a reduction in email traffic. Another point of conflict regarding the social interaction could be identified with respect to different user behaviours in the context of modern consumer IT. Flexible working schedules might also create larger differences regarding working time, which could be interpreted in terms of motivation. One employee fears that this could create tension among employees, and stress employees that cannot keep up:

“With flexible working you have automatically the problem, that some persons feel compelled to keep the pace, although they can’t or don’t want to. It gets even worse if some persons walk around highly-motivated and create the impression that all the others aren’t.”

The same employee was concerned some persons feel provoked earlier than others to answer if they receive a late email and calls for clear policies and an open discussion on how to deal with these situations.

Values

Most of the statements in the case data regarding employee values describe the different ideals about the blurring between work and personal life. Employees that fear interferences with their private life are likely to refuse the new forms of flexible working through consumer IT to maintain a clear borderline to professional contexts. One respondent refused to be equipped with a smartphone and explained:

“The advantages [of consumer IT] are more or less the disadvantages at the same time. (...) That’s why I decided against [the smartphone]. I do not perceive myself as important enough to be available for everybody 24/7. In the case that important decisions must be made, I can still forward my company phone calls to my private number. This has also the advantage that I don’t have to give out my number to anybody.”

This opinion was observed many times in the case study. Many respondents associated flexibility gains immediately with negative implications. One respondent frankly told us about experiences from his private life, mentioning the digital competence as part of child education:
“I think that an employee must establish clear borderlines, where mobile phones are not allowed. (…) There are families with children, who clearly say: ‘At the dining table, mobile phones are prohibited.’ It is very important to have the self-commitment to say ‘no’ sometimes.”

It is reasonable that the working routines within the public administration as well as its organizational culture contribute to a more conservative picture of the integration of work and life.

DISCUSSION

Our study investigates into possible influences IT consumerization has on the burnout-engagement continuum. To this end, we developed a framework with respect to the relationships between the six key domains of the workplace environment by Maslach and Leiter (2008) and IT consumerization. Using a case study approach, we found arguments for all key domains. However, it was evident that the effects on stress and engagement varied for every individual so that no general conclusion can be drawn. Figure 2 illustrates individual factors of the key domains of the workplace that may lead to stress or to engagement. Furthermore it connects the individual factors into joint constructs. We argue that these constructs provide further guidance for scientific theory building or practical strategies to embrace IT consumerization.

![Figure 2. Individual factors and constructs of IT consumerization in the burnout engagement continuum](image)

In the following, we describe such individual constructs and their implications for theory and practice.

Need for work-life separation

More flexibility in the job is considered to be one of the main benefits of IT consumerization (Forrester, 2012). Thus, many workers appreciate mobility features of modern consumer IT and use it to have more control over their work schedule. This is inevitably related to a blurring of work and life, i.e. the overlapping of personal and employee work systems (Baskerville, 2011). Our case study demonstrated that there are very distinct ideals among employees to either separate or integrate work and life. Rothbard, Phillips, and Dumas (2005) found that people who want more work-life segmentation are less satisfied with their job if their company establishes policies that foster the integration of the two. Thus, organizations that incorporate integration strategies might promote stress outcomes of individuals that prefer a clear line between work and life. Furthermore, people who integrate work and life are more susceptible for the spillover of stressful emotions form work life to private life and vice versa (Edwards and Rothbard, 2000), as well as for work-home conflicts (Ayyagari and Grover, 2011).
IT affinity

IT consumerization is associated with easier problem solving for those individuals that have the competence to work efficiently with consumer IT (Dell and Intel, 2011). It is often suggested that so called “digital natives” feel more comfortable and have a higher affinity to technology. Besides age differences, it has be proven that computer anxiety lessens the perceived control in the job (Elie-Dit-Cosaque, Pallud, and Kalika, 2011). Similarly, our case data suggests that some respondents lack the ability to apply consumer IT precisely because of missing IT capability or an inability to filter the increased amount of information.

Organizational commitment

Organizational commitment has been considered a dependent variable in the context of technostress (Ragu-Nathan et al., 2008) as well as job satisfaction and work life separation (Rothbard et al., 2005). However, our case data suggests the examination of commitment as possible mediator between stressors and stress effects. In this context, it has been suggested by research that higher commitment will buffer the effects between stressors and stress outcomes (King and Sethi, 1997). There is an obvious conflict between the different work behaviours of individuals, for example in terms of working time. From a technical perspective the diffusion of consumer IT would allow more flexible working times and constant availability for everybody. Such flexibility is likely to be appreciated by many employees and is often associated with productivity gains (Harris et al., 2012). However, flexible working times also goes hand in hand with major changes regarding the relations between employees. For instance, employees might feel pressured by others that use consumer IT to constantly stay informed about company issues. Organizational commitment is related to roles as executives carry more responsibilities. Cameron and Webster (2011) note that employee roles, requiring a lot of communication with different stakeholders at the same time, might experience intense pressure.

Conclusion and Outlook

In summary, a variety of effects of IT consumerization on both stress and engagement could be observed in our study. In this sense, our findings support the dual role of IT with regards to stress (Patel et al., 2012). We also observed contradictory behaviours and attitudes, i.e. employees considering consumer IT to be both curse and pray at the same time. As a result, every individual and organisation has to evaluate upon the need to be available anytime, anywhere (Middleton and Cukier, 2006).

Remarkably, almost all issues called for an individualization of the workplace. As IT consumerization contributes to a diversification of devices and software in enterprises (Gens, Levitas, and Segal, 2011), we see it as visible phenomenon to support the argument of an on-going individualization of information systems that will become prevailing practice in future (Baskerville, 2011). Besides the natural restrictions of qualitative research, we believe that our findings can inspire other researchers to take up the topic and use our proposed factors and constructs for further studies.

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