Issues regarding IT Consumerization: How Mixed IT Portfolios of Private and Business IT Components Cause Unreliability

Julia Lanzl
University of Hohenheim, Branch Business & Information Systems Engineering of the Fraunhofer FIT & FIM Research Center for Information Management, Germany
julia.lanzl@fim-rc.de

Manfred Schoch
University of Hohenheim, Branch Business & Information Systems Engineering of the Fraunhofer FIT & FIM Research Center for Information Management, Germany

Henner Gimpel
University of Hohenheim, Branch Business & Information Systems Engineering of the Fraunhofer FIT & FIM Research Center for Information Management, Germany

Abstract

With increasing mobile work due to the COVID-19 pandemic, the usage and relevance of consumer IT for business purposes have substantially increased. In this light, an understudied area of IT consumerization, the adverse outcomes for employees using consumer IT for business purposes, is of major importance. We conduct a mixed-methods study to investigate the adverse outcomes of IT consumerization. We build on prior studies and end-user interviews to draw connections between IT consumerization and unreliability as one known technostressor. A quantitative survey of 162 full-time employees shows that IT consumerization is associated with increased unreliability. The users' general computer self-efficacy, instead, decreases unreliability, and unreliability leads to various job-related and health-related outcomes. We show that unreliability is driven by users' experience while trying to integrate private and business IT components for business purposes. We follow up on this observation through a qualitative analysis of open-ended survey questions to detail users' experiences. Our findings emphasize the need to examine the negative outcomes of IT consumerization, despite its well-studied positive effects. We suggest that organizations should strive to integrate business and private IT as much as IT security constraints allow for reduced technostress.

Keywords: IT consumerization, BYOD, Technostress, Self-efficacy, Integration.

1 Introduction

Today, many IT users are responsible for their entire individual information system. Such individual information systems include infrastructure (e.g., Wi-Fi, mobile data plans), devices (e.g., smartphones and laptops), as well as applications and services that run on these devices (e.g., instant messengers) (Baskerville, 2011). Many times, such IT portfolios involve substantial amounts of consumer IT that is mobile, fast, and innovative. User experience with such privately-owned IT raises the bar for business IT. It has long caused employees to bring their own IT into the workplace, referred to as IT consumerization (Niehaves et al., 2012). IT consumerization has been studied widely with an emphasis on organizational advantages, such as increased innovation and productivity (e.g., Bautista et al., 2018; Junglas et al., 2019)

and organizational disadvantages, such as security and privacy risks (e.g., Gewald et al., 2017; Weeger et al., 2016), as well as end-user advantages and reasons for adoption (e.g., Ortbach, 2015). Adverse outcomes for the end-users, however, have been studied scarcely (Köffer et al., 2014). Ortbach, Köffer, Müller, and Niehaves (2013), for example, find an increasing effect of IT consumerization on stress – caused by increased reachability, lack of competence, workflow changes, and system redundancies. Additionally, Niehaves, Köffer, Ortbach, and Reimler (2013) find qualitative evidence that IT consumerization increases, for example, the individuals' workload, which in turn leads to stress. Two recent developments emphasize a renewed need to further engage with the adverse outcome of IT consumerization.

First and foremost, we have experienced a substantial increase in mobile work and work-from-home, sparked by global social distancing measures in the wake of the COVID-19 pandemic. Particularly the need for digital communication and collaboration has risen during the pandemic. These circumstances have forced many end-users into mobile work regardless of individual IT adoption decisions. Furthermore, this development has caught many organizations off guard, and without adequate IT to meet the needs of an entire organization working remotely. Thus, many employees have felt the need to use their private infrastructure, devices, and applications to fill those voids. This increase in involuntary mobile work will undoubtedly highlight the disadvantages of IT consumerization, particularly for its end users. Two known disadvantages are increased workload and technostress (Niehaves et al., 2012). We expect that in post-pandemic times, we will see higher levels of mobile work and work-from-home than we saw before COVID-19 as organizations today use more and more hybrid work as a mixture of working in the office (as before the pandemic) and work-from-home (as during the pandemic).

Second, a recent literature review and call for research has highlighted the need to understand better the creative and innovative use of IT (Tarafdar et al., 2019), which has been associated with IT consumerization (Junglas et al., 2019). While there are certainly opportunities for future research regarding positive psychological outcomes of IT consumerization, researchers also need to understand the potential adverse outcomes to view such opportunities in the right light. One aspect relevant in the context is understanding the interplay between the technologies (in this case, consumer IT) and the end-user. Research has suggested that both the mitigation of adverse effects (e.g., Shu et al., 2011; Tarafdar et al., 2015) and the fostering of positive effects (Salo et al., 2018) are related to the individual capabilities of the end-users. Nevertheless, organizations have a responsibility to provide their employees with adequate IT.

Related to the current increase in work-from-home and the associated increase in consumer IT use, we take a detailed look at the negative side of unreliability (i.e., the "degree to which features and capabilities provided by the technology are [not] dependable," Ayyagari et al., 2011, p. 837) when using IT portfolios consisting of both privately-owned and business-owned IT components, which we call mixed IT portfolios. To do that, we conduct a concurrent nested mixed-methods study with a dominant quantitative strand. With this, we aim to answer the following research questions:

RQ1: How does IT consumerization use behavior affect unreliability?

RQ2: What other factors drive unreliability in the context of IT consumerization?

Our research is structured as follows: First, we conduct a qualitative pre-study with the aim to check for applicability of the topic of IT consumerization and unreliability. Second, the main study is designed as a mixed-methods study, including a quantitative and a qualitative survey. Thereby, we develop hypotheses that we test with the quantitative survey and then analyze the qualitative data for additional insights. We find that poor integration between the privately-owned and business-owned components of a mixed IT portfolio is a major driver of unreliability, leading to adverse outcomes. These outcomes include switching exhaustion, transition costs, and dissatisfaction with the IT portfolio. We further find that particularly users with low computer self-efficacy are prone to experiencing such issues. In our qualitative strand, we provide concrete categories of problems that may arise and that organizations should be aware of when designing their IT consumerization policies.

2 Theoretical Background

2.1 IT Consumerization

An information system (IS) is a socio-technical system comprising technology, information, and social artifacts (A. S. Lee et al., 2015). Increasingly, individuals build, administrate, and use their own individual information systems (Baskerville, 2011). Because of this new autonomy, individuals can bring their own IT components wherever they go, including the workplace. This phenomenon is known as IT consumerization – using privately-owned IT components for business purposes (Niehaves et al., 2012). To illustrate what IT consumerization is and is not, Figure 1 displays the interplay. For one thing, IT can be privately-owned or owned by the employer (business-owned), and secondly, it can be used for private purposes or business purposes. IT consumerization refers to the upper right corner –the use of privately-owned IT for business purposes.

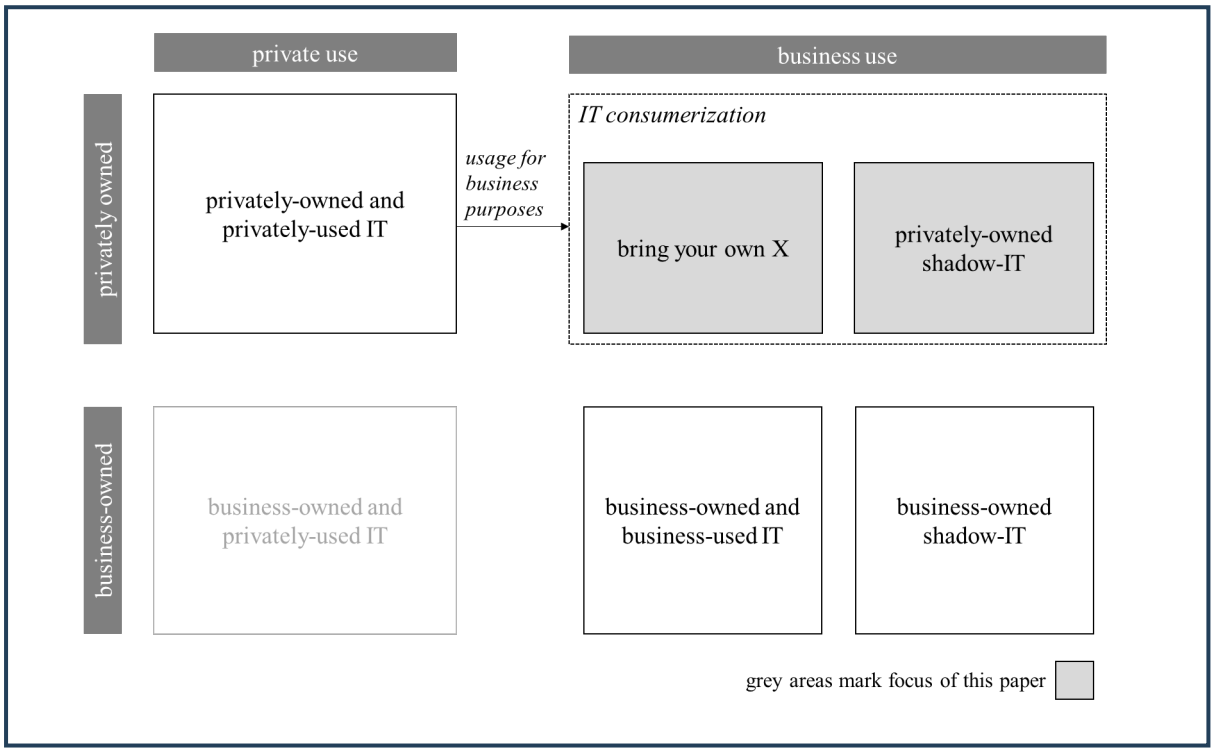

Figure 1. Interplay of Related Research Streams

Building on Harris et al. (2012), Ortbach, Köffer, Bode, and Niehaves (2013) introduced three possible types of IT consumerization: (1) the organizationally approved adoption of consumer IT, which includes BYOD strategies, (2) the usage of consumer IT which is not formally permitted by the organization, and (3) the strategic inclusion of consumer IT into the organizational IS landscape. The latter cannot be directly influenced by the individual and, thus, is not within the scope of this paper on the digitization of the individual. Regarding (1), the introduction of BYOD policies in organizations is increasing and has drawn much attention from researchers (e.g., Crossler et al., 2014; Köffer et al., 2015; J. Lee et al., 2017). Thereby, policies are not restricted to devices but have been extended to other IT. Baskerville and Lee (2013), for example, call this bring your own system, and Ortbach, Köffer, Bode, and Niehaves (2013) mentioned applications and internet services as elements of such systems. Regarding (2), Ortbach (2015) points out that practitioners frequently report major issues with privately-owned IT that are brought into organizations without permission. This phenomenon contributes to shadow IT, which is defined as devices and systems used by employees inside of an organization without formal IT department approval (Behrens, 2009; Silic & Back, 2014).

There have been many studies investigating this phenomenon of IT consumerization in the past years. Research has covered four areas: advantages for employees, disadvantages for employees, organizational advantages, and organizational risks (Niehaves et al., 2012). Regarding employee advantages, studies have focused on the antecedents of use decisions. This focus has led to a thorough understanding of why employees participate in bring-your-own-device programs or bring their privately-owned devices to work. Many of these studies build upon established technology acceptance and use literature, such as UTAUT, TAM, and TPB (e.g., Bautista et al., 2018; Ortbach, 2015; Weeger et al., 2016). These studies find that primarily the benefits for work purposes, such as increased usefulness and ease of use, drive adoption decisions.

From an organizational perspective, outcomes of IT consumerization use behavior are increased productivity and work quality (e.g., Bautista et al., 2018). Furthermore, advantages such as increased creativity, innovativeness, mobility, and flexibility (Behrens, 2009; Junglas et al., 2019; Ortbach, 2015; Weeger et al., 2016) are associated with IT consumerization. Many of these advantages are advantageous for organizations and the employees themselves. Lastly, indirect organizational benefits, such as increased employer attractiveness (Weeger et al., 2016) and organizational commitment (Doargajudhur & Dell, 2019), have been added to the list of benefits. There is also a stream of research that has focused on the negative sides of IT consumerization from an organizational point of view. Such risks mainly include IT security and data privacy issues (e.g., Gewald et al., 2017; Weeger et al., 2016) and a loss of organizational control (Behrens, 2009).

Direct connections between negative consequences for the individual and IT consumerization have been scarcely investigated. These include that organizational encouragement for IT consumerization increases work-to-life conflict (Köffer et al., 2014). Additionally, there are results on the issue using different data collection methods, such as user interviews (Niehaves, Köffer, Ortbach, & Reimler, 2013), case studies (Niehaves, Köffer, & Ortbach, 2013; Ortbach, Köffer, Müller, & Niehaves, 2013), and analyses of practitioner literature (Niehaves et al., 2012). All of these results point in the direction that IT consumerization indeed leads to adverse outcomes for the individual. In that regard, the mentioned studies provide evidence for the increase in stress levels when using consumer IT. An observation that is closely related to

research on technostress. To the best of our knowledge, no empirical studies exist that have investigated the harmful effects of mixed IT portfolios concerning actual use behavior quantitatively and in-depth.

2.2 Negative Outcomes of IT Consumerization

Studies have previously connected IT consumerization research with technostress. Early on, evidence in practitioner literature regarding IT consumerization hints at stress as a possible outcome (Niehaves et al., 2012). Technological ubiquity and blurring of boundaries between private and work life were identified as potential reasons. Others found that organizational encouragement for IT consumerization does indeed translate to both work overload and work-to-life conflict (Köffer et al., 2014). IT consumerization may lead to a higher workload due to ubiquitous access, resulting in stress (Niehaves, Köffer, & Ortbach, 2013).

This was echoed in an interview study that found increased reachability, lack of competence, workflow changes, and system redundancies to be drivers of adverse outcomes of IT consumerization (Ortbach, Köffer, Müller, & Niehaves, 2013). System redundancies are described as frequent changes in systems, multi-system usage, and redundancy of data.

In summation, extensive research has focused on reachability with aspects such as increased work-home conflict. Aspects related to the mixed IT portfolio itself, such as workflow changes and system redundancies, have seen little attention. There is also little evidence of how the mentioned technological factors interplay with a lack of competence in creating the perception of stress in relation to IT consumerization. Yet, with the growing relevance of IT consumerization, it is important to understand when and how it has adverse humanistic outcomes, such as technostress.

2.3 Negative Psychological Effects of IT Use

The findings regarding the dark side of IT consumerization can be closely related to research on psychological stress. Stress results from the interplay between environmental demands and personal resources, in which the demands tax or exceed the person's resources (Lazarus & Folkman, 1984). A theoretical lens frequently employed in the context of IS research is the person-environment fit approach. Ayyagari et al. (2011) have adapted the theory to reflect the person-technology fit (PT-fit). It states that both technological characteristics, as well as individual resources drive the perception of stress. This lens "provides insights into how technology characteristics influence stressors" (Ayyagari et al., 2011, p. 836). A lack of PT-fit (a PT-misfit) is associated with various IT-related strains (i.e., negative consequences). In this paper, we thus focus on the organizational context rather than the private one. Our understanding of the phenomenon thus follows the definition of technostress as "stress that users experience as a result of their use of IS in the organizational context" (Tarafdar et al., 2015, p. 103).

Technostress is a consequence of technology use (Ayyagari et al., 2011). Thus, various forms of IS use, such as email use, have been identified as drivers of stress (Stich et al., 2019). Further, the effect of online social network use on technostress has been investigated (Maier et al., 2015), and IS use has been included as a control variable in stress research (Ayyagari et al., 2011). Specific demanding conditions during IT use create technostress. Such conditions have been frequently associated with technology characteristics (Tarafdar et al., 2019), and multiple research contributions have identified such characteristics (e.g., Ayyagari et al., 2011; Becker et al., 2020). According to PT-misfit, demands must be met using personal resources to avoid

negative consequences. The theoretical lens suggests that these primarily include individual abilities (Ayyagari et al., 2011). Abilities refer to skills, training, time, and energy (Edwards et al., 1998). Previous research in the realm of IS research has identified individual beliefs about capabilities (Tams et al., 2018) and self-efficacy (Shu et al., 2011) as such resources.

PT-fit influences stressors due to IT use (Ayyagari et al., 2011). Much research has focused on identifying technostressors, such as invasion, overload, complexity, uncertainty, insecurity (Ragu-Nathan et al., 2008), and unreliability (Adam et al., 2017). Others have drawn connections between PT-fit and work stressors (Ayyagari et al., 2011). Stressors derived from such a theoretical view are traditionally associated with an inherently negative connotation (Tarafdar et al., 2019). Thus, they cause negative outcomes often referred to as strains (Ragu-Nathan et al., 2008; Tarafdar et al., 2019). Strains associated with a lack of PT-fit are plentiful: They may comprise a negative impact on the organizational commitment of an individual (i.e., how strongly an employee is involved in the organization and how strongly he or she identifies with it), the identification with the employer's values and goals, and ultimately the commitment to the workplace (continuance commitment, i.e., an employee's attachment to an organization) (Ragu-Nathan et al., 2008). Further, (techno)stress has adverse effects on the individual's health and well-being, such as increased exhaustion and burnout (Galluch et al., 2015). Similarly, the impact of PT-fit on IS-related outcomes has been investigated. Among others, these include satisfaction with IS (Tarafdar et al., 2010) and discontinued usage intention (Maier et al., 2015).

In summary, while PT-fit and IT consumerization are rich research streams, the overlap has been studied scarcely. However, with the recent advent of work-from-home, consumer technologies have seen renewed interest. Thus, an investigation of the overlap is both topical and relevant to organizations and employees alike.

3 Mixed-Methods Design and Pre-Study

3.1 Mixed-Methods Design

Our research approach consists of different steps: In a first step and as a pre-study, we conducted semi-structured interviews with the aim of an applicability check of the question at hand (i.e., the effect of IT consumerization on unreliability as well as further driving factors of unreliability in this context). After that, the main study followed a mixed-method approach (Venkatesh et al., 2013; Venkatesh et al., 2016) with the purpose of completeness. In the quantitative strand, we tested hypotheses derived from the literature. In the qualitative stream, we derived insights based on qualitative data collected as part of our survey.

Study	**Pre-study**	**Main study**	
Data collection	semi-structured interviews (n = 5)	structured online survey (n = 161)	
Strand	qualitative (less dominant)	quantitative (dominant)	qualitative (less dominant)
Analysis method	coding	PLS-SEM	coding
Aim and key inference	stimulus and applicability check for hypothesis development	statistical hypothesis testing	further assessment of quantitative findings

Table 1. Overview of Mixed-Methods Design

This stream helped us provide a more meaningful picture and richer explanations of the phenomenon, and more detailed insights for practice. The quantitative strand is the dominant

part, using a structural equation model based on survey data. The qualitative part used coding principles from grounded theory to analyze the open-ended questions (Strauss & Corbin, 1990) – for additional details, see Section 5.3. Table 1 sketches the overall design. We draw meta-inferences over both the qualitative and quantitative strands in the discussion.

3.2 Qualitative Pre-study

Existing knowledge regarding issues with workflow changes and system redundancies in mixed IT portfolios is scarce. Thus, in our pre-study applicability check, we aimed to understand relevant influencing factors in the context of IT consumerization. For that, we used the theoretical lens of PT-fit as a basis to derive interview questions and for our analysis of the interview data. This deductive-inductive approach is congruent with content analysis which has been widely used in IS research (Berg, 2009; Salo et al., 2020). We interviewed users of a knowledge-intense service organization regarding their negative experiences related to issues while using consumer IT for business purposes. Upon receiving descriptions of stressful user experiences, we followed up with questions regarding stress creators, resources or individual characteristics, and technology characteristics. The interviews were recorded and transcribed. The transcripts were coded. Contrary to grounded theory, this coding iteration was a deductive approach based on the authors' domain knowledge. Table 2 presents examples of direct quotes from the interviews.

Construct	**Example based on the Data**
Unreliability	
"degree to which features and capabilities provided by the [digital] technology are [not] dependable" (Ayyagari et al., 2011, p. 837)	"I was working on a document on the business laptop, pressed the save button and closed the laptop. At home, I opened my private laptop, opened the file, and all my changes were unavailable. Saving or synchronization [via the cloud technology] did not work; I have no idea." "We were both working on the same presentation. The next day I opened it [on my private laptop], and part of the progress was gone. And then there was an error message."
IT Portfolio Integration	
The ability to integrate data, communication and collaboration technologies, and other applications and services within one's individual information system (based on Rai & Tang, 2010)	"The problem that printing [from my private laptop] didn't work was that there was no VPN connection and the printer only allows devices from the network." "I had two computers that I worked with. The private computer was not integrated into the business IT infrastructure, which means that I had no access to emails and data from the business computer and then always had to transfer everything from the business computer to the other computer."
General Computer Self-Efficacy	
"an individual's perception of efficacy in performing specific computer-related tasks" (Marakas et al., 1998, p. 127)	"I would describe myself as a tech-savvy person and able to deal with digital technologies. […] Therefore, such situations are less stressful for me than for someone in whom these characteristics are less pronounced." "I would not consider myself incompetent in IT, but at that moment, I lacked the knowledge to deal with the specific situation without any problems. Now I know better."

Table 2. Results of Qualitative User Interviews

The findings show that the interviewees' experience centered around the technostress creator unreliability. More precisely, switching between privately-owned and business-owned components of an IT portfolio for business purposes was the most frequently reported source of stress related to IT consumerization. The interviewees reported occasions where the integration of data collected or processed through privately-owned IT caused problems when

they were transferred to business IT solutions and vice versa. For example, two interviewees mentioned that using a cloud solution was necessary to transfer data, which causes technical problems and may result in the loss of work progress.

To help overcome such experiences of unreliability, our interviewees mentioned a seamless integration of the different components of their IT portfolio to be one of the most important factors for effective IT consumerization. They frequently reported issues regarding integration that led to the perception of unreliability. For example, barriers related to the transfer of data were reported, which created the need for workarounds to have the data on each necessary device, and one interviewee mentioned that they could only use the company's printer from their private laptop and that they had to set up a VPN-connection to be able to print.

As another influencing factor, our interviewees mentioned general computer self-efficacy to be important. In our interviews, respondents explained how they coped with stressful situations through creative solutions and workarounds. For example, one interviewee suggested that they lacked the technological competence to deal with experienced unreliability when using multiple components of heir mixed IT portfolio. On the contrary, another employee stated that their background in IT helps them be calmer and more resilient when it comes to overcoming issues with IT.

Based on these results from our qualitative pre-study, we aim to further analyze the identified factors related to IT consumerization. Specifically, we want to further analyze how IT consumerization may cause unreliability and how this is also dependent on IT portfolio integration and general computer self-efficacy. Thus, in the following section, we develop a research model incorporating these factors.

4 Hypotheses Development

We aim to shed light on the relationship between IT consumerization use behavior and its adverse consequences. For that, we use the theoretical lens of PT-misfit and emphasize the interplay between IT consumerization, technology characteristics, personal resources, and outcomes. Prior literature and our interviews show that unreliability plays an important role in that regard and is a driver of adverse outcomes of IT consumerization. Thus, the paper at hand focuses on unreliability as an important stressor but does not claim that it is the only issue related to IT consumerization. Two further relevant influencing factors were also identified in the interviews. First, the impact of the degree of integration between privately-owned and business-owned components of the IT portfolio used for business purposes. We define an IT portfolio for business purposes as the composition of private and business IT components (such as devices, applications, and services) used for business purposes (cf. Junglas et al., 2019). Second, users' computer self-efficacy is considered a resource to mitigate the adverse impact of IT consumerization. In addition, three adverse outcomes of unreliability in the specific context of IT portfolios consisting of private and business IT for business purposes were identified: dissatisfaction with the IT portfolio, transition costs, and switching exhaustion. The following sub-sections develop our hypotheses in more detail. Figure 2 summarizes the research model and emphasizes its relationship with the overarching PT-fit theory.

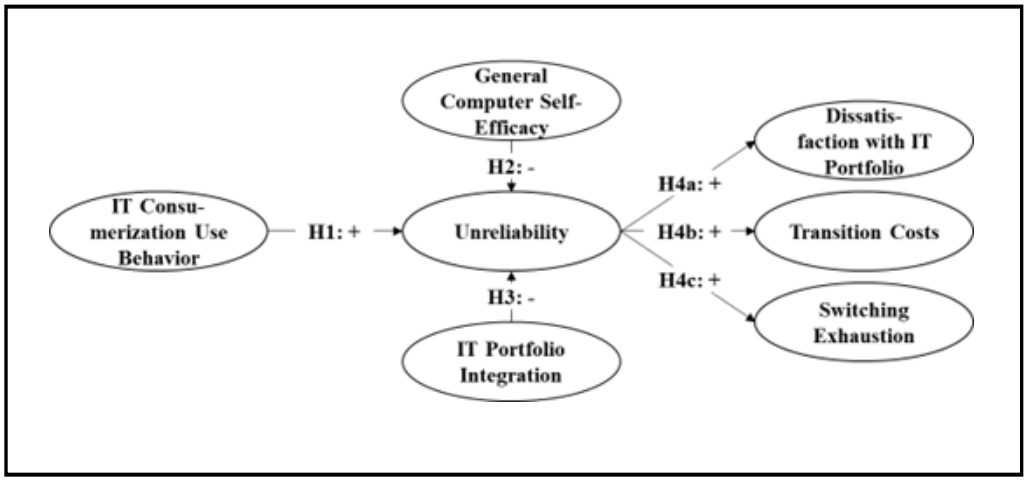

Figure 2: Research Model

4.1 IT Consumerization and Unreliability

System redundancies can be a source of stress in the context of IT consumerization (Ortbach, Köffer, Müller, & Niehaves, 2013). We propose that this is because they cause the perception of unreliability (Adam et al., 2017). Unreliability is defined as the "degree to which features and capabilities provided by the technology are [not] dependable" (Ayyagari et al., 2011, p. 837). This definition focuses on individual technologies and not necessarily their interplay. However, we extend this perception to IT portfolios instead of single technologies and suggest that the use of privately-owned technologies for business purposes results in unreliability. Thus, we hypothesize:

H1: *IT consumerization use behavior increases unreliability.*

4.2 Effect of General Computer Self-Efficacy

Personal resources play an essential role in the perception of stress. Relevant personal resources are digital literacy (Tarafdar et al., 2019) or technology competence (Tarafdar et al., 2015). This role is echoed by IT consumerization literature that finds an association with easier problem-solving for people with high technological competence (Niehaves, Köffer, Ortbach, & Reimler, 2013). Further, the lack of competence is mentioned as the most frequent antecedent of technostress when engaging in IT consumerization (Ortbach, Köffer, Müller, & Niehaves, 2013). In line with existing literature, we suggest a direct effect of general computer self-efficacy (Shu et al., 2011) on technostress creators, such as unreliability:

H2: *General computer self-efficacy reduces unreliability.*

4.3 Effect of Portfolio Integration

Switching from privately-owned IT to business-owned IT is generally possible but associated with data transfer or information exchange between the different components, which we refer to as a lack of portfolio integration (Rai & Tang, 2010). If the privately-owned and business-owned IT components are poorly integrated, users need to come up with workarounds to overcome problems that are caused by the lack of integration. Such workarounds are a source of unreliability and cause frustration. Nevertheless, when organizations provide seamless integration of the various privately-owned and business-owned components, such issues decrease. Hence, we hypothesize:

H3: *IT portfolio integration reduces unreliability.*

4.4 The Effect of Unreliability on Outcomes

As a first outcome of unreliability, we suggest dissatisfaction with the IT portfolio, which is the user's affective and cognitive evaluation of a consumption-related lack of need fulfillment experienced with the IT portfolio (Au et al., 2008). We argue that problems arising from integrating privately-owned and business-owned components of an IT portfolio and the resulting perception of unreliability increase individuals' dissatisfaction with their IT portfolio (cf. Au et al., 2008). Hence, we hypothesize:

H4a: *Unreliability increases dissatisfaction with the IT portfolio.*

Another result of switching between different technologies, such as online social networks, are heightened transition costs (Maier et al., 2015). Previous research finds that a lack of integration between different social media sites leads to high transition costs. Transition costs reflect the time and effort required in such situations. As pointed out, switching from privately-owned IT to business-owned IT components is generally possible but associated with data transfer and communication efforts referred to as portfolio integration (Rai & Tang, 2010). Thus, we propose the following:

H4b: *Unreliability increases transition costs.*

Technostress has several adverse outcomes regarding individuals' well-being. Particularly the effect on psychological strain has been studied extensively (e.g., Ayyagari et al., 2011; Galluch et al., 2015; Maier et al., 2015). Strain is one of the most important long-term problems that arise from stressful situations. To isolate the psychological effects of switching between different IT, switching exhaustion has been conceptualized (Maier et al., 2015). In other words, "the cause of the perception of exhaustion [is the] switching process" (Maier et al., 2015, p. 291). While the construct was developed in the context of online social network use, we adapt it to the context of IT consumerization and hypothesize:

H4c: *Unreliability increases switching exhaustion.*

5 Empirical Analysis

5.1 Survey Design and Procedures

To test the model empirically, we designed an online survey. The questionnaire started with an explanation of the survey's scope and explained the use of private and business IT for business purposes. Participants indicated their level of IT consumerization use behavior (Junglas et al., 2019). We further measured unreliability (Ayyagari et al., 2011) as well as its outcomes (Au et al., 2008; Maier et al., 2015). Lastly, computer self-efficacy (Marakas et al., 2007) and IT portfolio integration (Rai & Tang, 2010) wee measured. All scales were reflective. We measured all items on a seven-point Likert scale. Where necessary, we adapted the items to the IT consumerization context. Appendix A provides an overview of all items. We furthermore asked an open-ended question regarding stressful or frustrating situations from switching between private IT to business IT and vice versa.

We conducted the survey in April 2020 during the first wave of the COVID-19 pandemic. For the recruiting of participants, we used the online crowdsourcing market Amazon Mechanical Turk (MTurk). Thereby, we restricted participation to currently employed full-time workers in the US. Internet-based platforms, such as MTurk, allow the recruiting of participants for surveys and other tasks (Steelman et al., 2014). MTurk's participant pool is closer to the US

population than traditional university subject pools (Paolacci et al., 2010). Further, MTurk has been frequently used in IS research before (e.g., Kehr et al., 2015). Participants received a monetary reward of USD 1.30 for completing the survey.

To ensure data quality, we implemented several measures. We only chose MTurk workers that had participated in at least 50 tasks on MTurk with an approval rate of 90% and more. Further, we employed a commonly-used attention check ("If you are answering this survey cautiously, tick the second box from the left."), an instructional manipulation check (Oppenheimer et al., 2009), and we assessed open-ended questions to identify "unusual comments" (Chmielewski & Kucker, 2020).

5.2 Results

In total, 162 participants completed our survey and passed our quality gates, of which 32.7% are female and 65.4% male. Three participants stated to be of another gender. The average age of respondents was 39 years. We assessed our research model through structural equation modeling (PLS-SEM) using SmartPLS 4 (Ringle et al., 2022), which is a variance-based approach for SEM (Hair et al., 2017). We started with the evaluation of the measurement model before assessing the structural model and testing our hypotheses.

5.2.1 Evaluation of the Measurement Model

Regarding internal consistency reliability (ICR), all scales exceed the threshold of 0.708, with a minimum of 0.800 for Cronbach's Alpha (Alpha) and a minimum of 0.879 for composite reliability (CR). For convergent validity, we examined indicator reliability and average variance extracted (AVE). Convergent validity is satisfactory as the minimum of all indicators' outer loadings is 0.780, and the minimum AVE is 0.708. For discriminant validity, we first examined each indicator's cross-loadings with all other constructs to check whether they are lower than the indicator's outer loading on the construct. Our data meets this criterion. Second, each construct's square root of the AVE is higher than the highest correlation with other constructs (Fornell-Larcker criterion). Thus, discriminant validity is supported. Table 3 shows the means, standard deviations (SD), Alpha, CR, and AVE for all constructs. Information on (Cross-)Loadings and the Fornell-Larcker criterion can be found in Appendices B and C.

	# Items	Mean	SD	Loadings	Alpha	CR	AVE
IT Consumerization Behavior	3	4.844	1.853	0.780-0.892	0.800	0.879	0.708
Unreliability	3	5.287	1.272	0.951-0.966	0.957	0.972	0.920
General Computer Self-Efficacy	6	6.069	1.295	0.824-0.934	0.944	0.954	0.777
IT portfolio-Integration	4	2.745	1.791	0.843-0.892	0.896	0.927	0.761
Dissatisfaction with IT Portfolio	4	2.455	1.239	0.913-0.923	0.938	0.956	0.844
Transition Costs	3	3.434	1.712	0.926-0.957	0.941	0.946	0.962
Switching Exhaustion	4	3.091	1.850	0.939-0.953	0.962	0.963	0.973

Table 3. Descriptive Statistics, Main Factor Loadings, Internal Consistency, and Average Variance Extracted

5.2.2 Evaluation of Structural Model and Hypotheses Testing

Collinearity is not an issue since all variance inflation factors of the constructs are lower than 5.0 (max. of 1.262). Figure 3 presents the path estimates for the model, including their significance level.

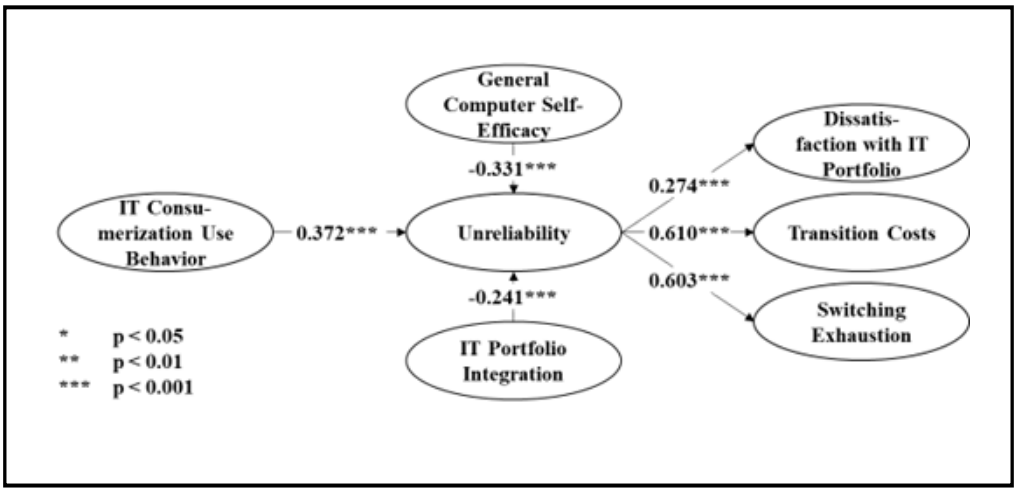

Figure 3. Model Results

Table 4 displays the corresponding R^2 and R^2 adjusted values as well as the Q^2 values from PLSpredict, a procedure for assessing the predictive performance of the model (Shmueli et al., 2019). As all Q^2 values are above zero and since the majority of all indicators' root mean squared errors (RMSE) and mean absolute errors (MAE) of the PLS-SEM analysis are smaller compared to the linear regression model (LM) (see Appendix D), we assume predictive relevance (Shmueli et al., 2019).

We find that IT consumerization use behavior is positively related to unreliability, which supports H1. Also, general computer self-efficacy and IT portfolio integration are found to have a significant and negative association with unreliability. This finding supports H2 and H3. Lastly, H4a-H4c are supported as unreliability is positively related to dissatisfaction with the IT portfolio, transition costs, and switching exhaustion. Table 5 summarizes our hypotheses and their respective empirical results.

	R^2	**R^2 Adj.**	**Q^2**
Unreliability	0.255	0.240	0.223
Dissatisfaction with IT Portfolio	0.075	0.069	0.077
Transition Costs	0.372	0.368	0.132
Switching Exhaustion	0.364	0.360	0.134

Table 4. Explained Variance in the Structural Equation Model

Theoretical Hypotheses			**Empirical Results**	
H1	pos.	IT Consumerization Behavior → Unreliability	supported	++
H2	neg.	General Computer Self-Efficacy → Unreliability	supported	-
H3	neg.	Perceived IT portfolio-Integration → Unreliability	supported	-
H4a	pos.	Unreliability → Dissatisfaction with IT Portfolio	supported	+
H4b	pos.	Unreliability → Transition Costs	supported	+++
H4c	pos.	Unreliability → Switching Exhaustion	supported	+++

Table 5: Overview of Hypotheses and Empirical Results

Note. plus signs indicate a significant and positive effect, minus signs a significant and negative effect, and n.s. would indicate a non-significant effect at the 5% level. For significant effects, +/- indicates a small ($f^2 \geq 0.02$), ++/-- a medium ($f^2 \geq 0.15$), and +++/--- a large ($f^2 > 0.35$) effect size. Please see Appendix E for the detailed f^2 values.

We find that IT consumerization use behavior is positively related to unreliability, which supports H1. Also, general computer self-efficacy and IT portfolio integration are found to have a significant and negative association with unreliability. This finding supports H2 and H3. Lastly, H4a-H4c are supported as unreliability is positively related to dissatisfaction with the IT portfolio, transition costs, and switching exhaustion. Table 5 summarizes our hypotheses and their respective empirical results.

5.3 Evaluation of the Qualitative Survey Data

For the qualitative strand of our main study, we asked the respondents to name stressful or frustrating situations from switching between privately-owned and business-owned IT and vice versa. We collected 130 valid responses to this question. These answers were inductively coded using open coding (or initial coding), which refers to the beginning stages of the data analysis that aims to segment the data. Initial codes were then reorganized into broader categories, a process that can be described as axial coding (Strauss & Corbin, 1990). Our findings are presented in Table 6.

Description	Example based on the Data
Lack of Reliable Access	
Difficulties, such as unreliability and slow speeds, with accessing business resources from private devices – particularly through secure connections via VPNs.	"Accessing the shared server through VPN can be difficult if there are server problems or network issues. Sometimes the server can be down for hours, and I cannot access files." "I was unable to maintain a stable connect[ion] with my VPN for work, but a technician talked me through it, and it was eventually resolved."
Issues Primarily Related to Data Transfer	
Tedious File Transfer	
Transferring data from one device to another is perceived as tedious. Lack of speed and time-consuming workarounds cause frustration.	"I have found it difficult to have a particular software on my business IT working. So, I used my private device to complete the job. But it is almost not possible to upload the results to the server of my company from a private IT component without the approval of the IT personnel [...]. So I have to forward this result to my business IT before uploading, which turns out to be an extra effort." "I have Photoshop on my business laptop but use my personal desktop for most of my work. When I download a photo that needs editing, I have to email it to myself to my laptop so I can use Photoshop."
Data Inconsistencies and Redundancies	
Unsuccessful syncing of applications between private and business IT devices creates frustration, particularly where inconsistent data must be managed redundantly.	"Working from home, there have been some glitches where some applications are not talking to one another. There should be no time [gap] when I update one database, which should then carry over to other applications." "I had some issues syncing up emails between three devices because one of the devices was on an older operating system. This laptop cannot be upgraded any further, so it's causing me some issues."
Loss of Data while Switching	
Loss of data while transferring data from private to business component and vice versa, particularly when unreliable workarounds are necessary.	"The last time I had to switch from one IT component to the other, I ended up losing almost all my files because it was not well backed up. It was so frustrating that I had to call the company to help find a way to recover some of the important documents." "I lost my flash drive on which I put the data [I wanted to transfer]. It was very frustrating."
Issues Primarily Related to IT Usage	
Incompatibility	
Incompatibility of private and business IT. Mainly because of different operating systems and	"Sometimes, some files are not compatible across devices, especially between Mac and PC. It is annoying to try to figure out how to convert them."

specific file types that cannot be accessed.	"I have my work saved on my [private] laptop, and I want to access that work on my business phone, but not all of the data is fully transferable. I.e., Excel documents are only on my laptops."
Inability to Use the Same Software	
Problems with the installation of business applications on the private device or vice versa cause undesired barriers. This can be due to incompatible hardware and software, IT policies, licenses, or a lack of admin rights.	"I am not allowed to use email on my private IT component. So when my manager uses instant messaging to alert me that I have to check my email, I need to use my business IT component (laptop)." "Trying to log on to our all-employee virtual meeting using Microsoft Teams – I couldn't get the native app on my PC to work, so switched to the app on my phone, and then the Web app."

Table 6. Coding Scheme of Qualitative Survey Data

We find several aspects that contribute to the perception of unreliability due to a lack of IT portfolio integration. First, a lack of reliable access to company resources is reported to be a source of frustration. Such a perception can be caused by slow VPN connections, unavailable business servers, or network issues. This creates problems while trying to cross the boundaries from private to business IT. Second, we find several aspects related to data and file transfer that are a source of unreliability for many employees. File transfer is perceived as tedious, particularly when direct options are unavailable and workarounds, such as file forwarding via email, have to be employed to switch from business to private solutions and vice versa.

Similarly, a lack of seamless integration between private and business IT components can cause data inconsistencies or the need to manage data redundantly. This is particularly the case when options for automatic synchronization are missing or not working properly. In extreme cases, the need for workarounds or manual file transfer can result in data loss. This is a major source of frustration as productivity loss often accompanies it. Lastly, incompatibility between different operating systems in a mixed IT portfolio consisting of unaligned private and business IT components creates issues. Workarounds, such as file converters, have to be employed by the individuals, hindering their workflow. Third, known routines can be adversely affected due to the inability to use the same software on private and business IT. This can be caused by incompatibility between technologies or by deliberate decisions by organizations, such as IT policies. It creates boundaries between the components, which take up additional time and are undesired by the employees.

While these categories help gain a detailed understanding of users' experiences, they are not without interrelations and interdependencies. For example, loss of data could result from a tedious file transfer workaround gone wrong, and incompatibility could result in an inability to use the same software. However, the categories can also occur independently. For example, the inability to use the same software can be due to IT policies. Despite these limitations, we consider the list a good overview of the underlying issues of unreliability due to a lack of integration between business and private IT that may guide decisions in practice.

6 Discussion

Our research was motivated by two major recent developments. First, the COVID-19 pandemic and its social distancing measures force employees into more mobile work and work-from-home. This has specifically increased the need for digital communication and collaboration. The development was frequently accompanied by a need for IT that was not provided by the employer, thus, resulting in increased IT consumerization. Second, prior research has stated the need to better understand innovative IT use associated with IT

consumerization (Tarafdar et al., 2019). However, adverse effects on the individual have been studied scarcely. This scarcity is particularly true for the role of mixed IT portfolios and the integration of privately-owned and business-owned IT components. Thus, we built a theoretical model based on PT-fit and analyzed the effect of IT consumerization on unreliability as well as associated outcomes and the influence of computer self-efficacy and IT portfolio integration. We used a qualitative pre-study to inform our theorizing and tested the theoretical model quantitatively through survey data. The data supported our hypotheses. Qualitative data from open-ended survey questions added richness to the understanding of the relationships.

Our mixed-methods approach was aimed at the primary purpose of completeness. However, it also allowed us to triangulate and corroborate our results. Because our qualitative results provide various examples of the relationship between IT consumerization behavior and unreliability, our meta-inferences are that the results from the two data types are convergent. The qualitative data reveals several issues that arise from using an IT portfolio that consists of private and business components. This data allows us to pinpoint concrete problems and hurdles regarding IT consumerization that may be mitigated by software providers (e.g., by emphasizing compatibility and easy data transferability via clouds) and IT departments (e.g., through choose-your-own-device initiatives or by providing adequate remote access to company resources). We consider these results to be robust and to provide a comprehensive overview of the phenomenon under investigation and elaborate on the triangulation of quantitative and qualitative data in the following.

Our quantitative findings show that high IT consumerization behavior comes with the perception that the IT portfolio is unreliable (H1). Our qualitative analysis allowed us to triangulate these findings by identifying various reasons for this relationship. We revealed that handling an IT portfolio that consists of both private and business components may yield various compatibility issues (e.g., incompatibilities due to different operating systems or different software packages) and problems with data transfer between the two (e.g., data inconsistencies and redundancies or the loss of data while switching between two components). With extended IT consumerization behavior, these issues appear more often and more of these issues may appear – thus leading to a higher perceived unreliablity as our quantitative analysis indicates. Second, we found that confidence and skills in regard to technology (i.e., computer self-efficacy) may reduce the perception of unreliability (H2). We also found evidence for this relationship in our qualitative data. For example, users stated that converting data for it to work with incompatible IT components requires effort, skills, and experience. Third, we revealed a relationship between a higher IT portfolio integration and a lower perception of unreliability (H3). We corroborated these findings through qualitative data that suggests that many issues that revolve around compatibility may be subject to specific IT portfolios that are poorly integrated (e.g., portfolios consisting of Mac and Windows PCs). Fourth, we also quantitatively investigated the negative outcomes of unreliability, which encompasses dissatisfaction with the IT portfolio, switching exhaustion, and transition costs that hamper performance (H4a-c). While the outcomes were not the focus of our qualitative questions, we found some indications that yield the same direction as in the quantitative data, indicating plausibility of the quantitative findings. For example, when an IT portfolio causes unreliability in the form of tedious data transfer that takes time and leads to frustration, switching between one device and another is perceived as exhausting and stressful. Further, when individuals are unable to use the same software for communication because they are not

allowed to or do not have access to their business-owned email on their private devices, they experience higher transition costs as it remains difficult for them to stay in touch with their coworkers when using their private devices.

6.1 Theoretical Contribution

We found that IT consumerization and the use of mixed IT portfolios that are poorly integrated have multiple negative consequences. Based on extant literature and qualitative interviews, unreliability is a major mediator of this relationship. This is important to notice since prior research on IT consumerization has found higher usefulness and ease of use to be the key drivers for individuals' IT adoption decisions in general (Venkatesh et al., 2012) and IT consumerization in particular (Ortbach, 2015). The perception of IT as not behaving consistently and its features as not being dependable tend to go against classical antecedents of technology acceptance, like perceived ease of use and perceived usefulness. Unreliability has been established as a technostress creator (Adam et al., 2017; Fischer et al., 2021). Aspects of it, such as computer freezes, have been studied in laboratory experiments (Weinert et al., 2020) and shown to cause biological consequences, such as the release of stress hormones (Riedl et al., 2012). Yet, there is little research that has drawn a connection between IT consumerization and an increase in unreliability. Here, we see a need for a deeper investigation to understand this paradox.

As a first step to deepening this understanding, we found that IT portfolio integration is a crucial factor for the seamless operation of IT portfolios for business purposes, including private IT components. To the best of our knowledge, this perception has not been considered in the IT consumerization literature so far, and we contribute to it by raising this issue. We find that issues with integration between multiple components of a mixed IT portfolio lead to a higher perception of unreliability. While the duality of IT components certainly raises issues with integration, which we show in this study, such issues can also emerge between multiple heterogeneous IT components provided by the business. For example, different manufacturers of IT and their respective operating systems might cause such issues, which, thus, should be regarded in future research. This may also touch upon certain aspects of compatibility, which have been used as an exogenous variable that extends UTAUT and may explain user behavior (e.g., Blut et al., 2022). Yet, our study indicates that it may also be related to unreliability and, thus, technostress. While poor integration may be an issue with IT portfolios consisting of only business-owned IT components, their management is easier and lies in the hand of IT departments. This is different for mixed IT portfolios, where users are administrating their privately-owned components.

It is apparent that the general computer self-efficacy of the users also plays a vital role in this relationship. We find that general computer self-efficacy influences the effect of IT consumerization on technostress creators in several ways. This is congruent with the transactional model of stress that most technostress research is based on. Here, stress emerges when external demands tax or exceed the resources an individual can use to meet the demands (Lazarus & Folkman, 1984). General computer self-efficacy is such a resource. Several IS studies have investigated the relationship between such IT-related competencies that may lead to a perception of control in relation to technostress (Shu et al., 2011; Tams et al., 2018). Our findings are congruent with these results and are particularly important for the individuals themselves when deciding whether to engage in IT consumerization. This yields several practical implications that we discuss in the next section.

We extend upon our quantitative findings through a qualitative analysis of users' experience of poor integration of privately-owned and business-owned IT. To the best of our knowledge, such in-depth insights are not covered by previous IS-related research on unreliability or compatibility. We find a host of different problems that can arise, which center around universal access to company resources, data transfer, synchronization, and compatibility issues. These insights also extend our understanding of the technostress phenomenon and may guide future work on mitigating technostress related to IT consumerization.

6.2 Practical Implications

Since employees tend to increasingly use privately-owned IT for business purposes, it is crucial to understand one's personal consequences of this adoption decision to make this decision rationally. Our qualitative investigation reveals several issues that employees face when business IT and private IT are poorly integrated. Some of these issues can be overcome by the organization: For example, seamless solutions for data transfer that employees can integrate onto their private devices may help with issues with data loss or data redundancies. Many cloud-based office suites offer such integration that can be made available to private devices based on the organization's IT policies. Several changes come as a tradeoff between IT security and user-friendliness: With recent security incidents attracting global attention and home-office workers becoming an increasingly popular gateway for hackers, many companies tend to be cautious with their IT policies. However, they should be aware that restricting access to company resources decreases the IT portfolio integration and, thereby, causes unreliability for the employees. As our study shows, this stress, in turn, is associated with adverse effects on the employees and the company itself.

Our findings further show that such stressful situations are particularly problematic for IT users that lack personal IT-related resources, measured as general computer self-efficacy, to overcome such issues. Thus, we conclude that IT consumerization is only reasonable if individuals can handle the technologies of their IT portfolio and the complexity introduced by the interplay of privately-owned and business IT components. Hence, IT consumerization should be cautiously used by employees lacking the resources to meet the additional demands arising from IT consumerization.

Furthermore, privately-owned IT components usually receive less organizational support, an essential external resource for inhibiting technostress. In order to prevent the identified negative consequences of IT consumerization, organizations would be well-advised to start offering support for privately-owned IT. Such support would allow both the organization and its employees to benefit from the advantages associated with IT consumerization without risking their employees' well-being and productivity. Alternatively, to reduce IT consumerization and its adverse outcomes in the first point, organizations can provide their employees with all relevant and easy-to-use IT components they need for mobile work and work from home. Yet, this naturally hampers its benefits.

In summation, restrictive and laissez-faire IT consumerization policies may adversely affect users that struggle with IT. Organizations should thus embrace IT consumerization and offer technical support and adequate technological integration of private IT devices into their portfolio to reap the benefits and mitigate the risks of IT consumerization.

7 Limitations and Conclusion

Our study has a number of limitations that leave room for further research. In the quantitative empirical part, we used data from a single cross-sectional survey in times of the COVID-19 pandemic, and in our sample, male participants are more represented than in the US workforce in general. This leads to limitations in testing the robustness and generalizability of results. Future research should follow up with generating additional data sets to test robustness and generalizability. Particularly the relationship between IT portfolio integration and technostress seems promising for future research and should be further validated.

Further, in our research, we emphasize the role of unreliability, which has been scarcely studied in the context of IT consumerization. We show that IT portfolio integration plays a significant role in this relationship. While we elicit several reasons why IT consumerization creates such problems, for example, through a lack of strategic alignment of the components, we do not think that the outlined problems are limited to this domain. Poorly managed or historically grown business IT portfolios may have similar issues. Future research could thus explore the impact of integration on technostress within other IT portfolios.

Additionally, the pandemic-related conditions for organizations have changed. Whereas during the pandemic, many organizations worked from home to a high degree, today, they ask their employees to come back to the office. Even though this development might change the amount of IT consumerization, we believe that in the current hybrid work settings (i.e., a mixture of working in the organization's offices and at home), IT consumerization still plays an important role. Future research should thus investigate how the context of hybrid work may affect IT consumerization.

Previous work has raised research questions regarding different types of stress, particularly challenge stress (Tarafdar et al., 2019). One element mentioned to create challenging situations for users is innovative work behavior (Tarafdar et al., 2019). This factor is said to be facilitated by IT consumerization (Junglas et al., 2019). While unreliability is likely a hindrance or a threat to most individuals, future research should look into ways that IT consumerization can contribute to the bright side of technostress. Despite these suggestions for future research, the paper at hand contributes to the scholarly discourse on both the effects of IT consumerization and the antecedents of technostress. It provides several suggestions for practitioners to govern and manage IT consumerization and mixed IT portfolios.

In conclusion, we add to the current understanding of IT consumerization by shedding light on the adverse effects of IT consumerization concerning technostress and its consequences. We find unreliability to be particularly relevant in this context. With a mixed-methods design, we detail why a mixed IT portfolio of business and private IT components creates a sense of unreliability. Our research further contributes concrete issues that users experience and suggests how these effects can be attenuated on an organizational and individual level. We conclude that IT consumerization needs to be adequately managed and integrated into the existing business-owned IT landscape to reduce individual exhaustion, increase satisfaction with the IT portfolio, and reduce transition costs that inhibit performance. We further suggest that IT consumerization makes the most sense for users with a high level of IT-related resources to successfully overcome the remaining boundaries between privately-owned and business-owned IT.

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Appendices

Appendix A – Measurement Items

IT Consumerization Use Behavior (source: Junglas et al., 2019)	
ITC01	I use my private devices (e.g., smartphone, iPad, or private laptop computer) for business purposes.
ITC02	I use mobile applications downloaded from the Web for business purposes.
ITC03	I use my private services (e.g., Skype, Twitter, Facebook, text messaging) for business purposes.
Unreliability (source: Ayyagari et al., 2011)	
UNR01	The features provided by components of my IT portfolio for business purposes are not dependable.
UNR02	The capabilities provided by components of my IT portfolio for business purposes are not reliable.
UNR03	Components of my IT portfolio for business purposes do not behave in a highly consistent way.
IT Portfolio Integration (source: Rai & Tang, 2010)	
PIN01	My IT portfolio for business purposes easily accesses data from its various components.
PIN02	My IT portfolio for business purposes provides seamless connection between its various components (e.g., devices, services, data).
PIN03	My IT portfolio for business purposes has the capability to exchange realtime information between its various components.
PIN04	My IT portfolio for business purposes easily aggregates relevant information from its various data sources (e.g., file storage, messaging, email, office suite).
General Computer Self-Efficacy (source: Marakas et al., 2007)	
CSE01	I believe I have the ability to describe how a computer works.
CSE02	I believe I have the ability to install new software applications on a computer.
CSE03	I believe I have the ability to identify and correct common operational problems with a computer.
CSE04	I believe I have the ability to unpack and set up a new computer.
CSE05	I believe I have the ability to remove information from a computer that I no longer need.
CSE06	I believe I have the ability to use a computer to display or present information in a desired manner.
Dissatisfaction with IT Portfolio (source: Au et al., 2008)	
DIS01	I am very contented with my IT portfolio for business purposes.*
DIS02	I am very pleased with my IT portfolio for business purposes.*
DIS03	I feel delighted with my IT portfolio for business purposes.*

DIS04	Overall, I am very satisfied with my IT portfolio for business purposes.*
Transition Costs (source: Maier et al., 2015)	
TC01	It takes a lot of time to maintain the level of information exchange with my business environment using different components of my IT portfolio for business purposes.
TC02	It takes a lot of time to maintain the level of communication with my business environment using different components of my IT portfolio for business purposes.
TC03	Overall, it takes a lot of time to maintain the established level of socializing with my business environment when using different components of my IT portfolio for business purposes.
Switching exhaustion (source: (Maier et al., 2015)	
SE01	Switching from one component of my IT portfolio for business purposes to one or more other components stresses me out.
SE02	I feel tired by switching from one component of my IT portfolio for business purposes to one or more other components.
SE03	Switching from one component of my IT portfolio for business purposes to one or more other components is a strain for me.
SE04	I feel drained from activities involved in switching from one component of my IT portfolio for business purposes to one or more other components.
*reverse-coded	

Appendix B – Factor Loadings (main loading in bold font)

		ITC	**UNR**	**CSE**	**PIN**	**DIS**	**TC**	**SE**
ITC	ITC01	**0.780**	0.114	0.279	0.281	-0.227	0.105	0.033
	ITC02	**0.892**	0.221	0.280	0.306	-0.186	0.150	0.170
	ITC03	**0.848**	0.183	0.068	0.168	-0.151	0.145	0.252
UNR	UNR01	0.209	**0.966**	-0.267	-0.286	0.243	0.610	0.606
	UNR02	0.178	**0.951**	-0.327	-0.315	0.266	0.591	0.565
	UNR03	0.236	**0.961**	-0.228	-0.317	0.280	0.553	0.563
CSE	CSE01	0.268	-0.144	**0.824**	0.328	-0.209	-0.121	-0.150
	CSE02	0.206	-0.313	**0.934**	0.360	-0.325	-0.207	-0.251
	CSE03	0.250	-0.217	**0.871**	0.406	-0.321	-0.150	-0.220
	CSE04	0.164	-0.194	**0.844**	0.315	-0.177	-0.231	-0.284
	CSE05	0.193	-0.278	**0.899**	0.322	-0.268	-0.222	-0.264
	CSE06	0.224	-0.293	**0.913**	0.423	-0.331	-0.236	-0.270
PIN	PIN01	0.273	-0.312	0.384	**0.882**	-0.513	-0.208	-0.162
	PIN02	0.260	-0.272	0.322	**0.873**	-0.526	-0.220	-0.121
	PIN03	0.272	-0.295	0.388	**0.892**	-0.428	-0.242	-0.208
	PIN04	0.218	-0.217	0.317	**0.843**	-0.508	-0.183	-0.090
DIS	DIS01	-0.205	0.271	-0.315	-0.524	**0.917**	0.206	0.201
	DIS02	-0.234	0.239	-0.367	-0.560	**0.923**	0.172	0.178
	DIS03	-0.157	0.209	-0.223	-0.450	**0.913**	0.105	0.146
	DIS04	-0.188	0.276	-0.256	-0.524	**0.922**	0.099	0.166
TC	TC01	0.137	0.616	-0.213	-0.245	0.171	**0.957**	0.604
	TC02	0.134	0.571	-0.212	-0.243	0.165	**0.954**	0.550
	TC03	0.193	0.538	-0.219	-0.209	0.115	**0.926**	0.605
SE	SE01	0.149	0.562	-0.333	-0.187	0.178	0.556	**0.939**
	SE02	0.203	0.596	-0.308	-0.197	0.199	0.622	**0.948**
	SE03	0.183	0.556	-0.220	-0.120	0.175	0.576	**0.953**
	SE04	0.214	0.571	-0.190	-0.145	0.166	0.595	**0.952**

Note: ITC = IT Consumerization Use Behavior, UNR = Unreliability, PIN = IT Portfolio Integration, CSE = General Computer Self-Efficacy, SAT = Dissatisfaction with IT Portfolio, TC = Transition Costs, SE = Switching Exhaustion

Appendix C – Inter-Factor-Correlations (square root of AVE in the diagonal)

	ITC	**UNR**	**CSE**	**PIN**	**DIS**	**TC**	**SE**
ITC	**0.841**						
UNR	0.216	**0.959**					
CSE	0.241	-0.286	**0.881**				
PIN	0.296	-0.319	0.408	**0.872**			
SAT	-0.215	0.274	-0.318	-0.563	**0.918**		
TC	0.162	0.610	-0.227	-0.246	0.160	**0.946**	
SE	0.198	0.603	-0.277	-0.172	0.190	0.620	**0.948**
Note: ITC = IT Consumerization Use Behavior, UNR = Unreliability, PIN = IT Portfolio Integration, CSE = General Computer Self-Efficacy, SAT = Dissatisfaction with IT Portfolio, TC = Transition Costs, SE = Switching Exhaustion							

Appendix D – Results of PLSpredict

	PLS		**LM**	
	RMSE	**MAE**	**RMSE**	**MAE**
UNR01	1.574	1.285	1.631	1.329
UNR02	1.654	1.346	1.706	1.363
UNR03	1.580	1.300	1.637	1.340
DIS01	1.098	0.916	1.025	0.798
DIS02	1.148	0.930	1.023	0.808
DIS03	1.375	1.082	1.333	1.026
DIS04	1.159	0.930	1.072	0.830
TC01	1.612	1.340	1.684	1.404
TC02	1.601	1.355	1.717	1.441
TC03	1.629	1.390	1.698	1.421
SE01	1.786	1.522	1.819	1.497
SE02	1.690	1.451	1.727	1.449
SE03	1.755	1.491	1.799	1.514
SE04	1.734	1.438	1.764	1.430

Appendix E – Effect Sizes (f^2 values)

Relationship	**f^2**
IT Consumerization Use Behavior → Unreliability	0.166
General Computer Self-Efficacy → Unreliability	0.064
IT Portfolio Integration → Unreliability	0.116
Unreliability → Dissatisfaction with IT Portfolio	0.081
Unreliability → Transition Costs	0.592
Unreliability → Switching Exhaustion	0.572

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