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The Influence of Private Alternatives on Employees' Acceptance of Organizational IS

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Abstract:

Recent phenomena such as IT consumerization, bring your own device, and shadow IT describe employees who introduce new technologies into their organizations rather than resist technological change. We research the underlying mechanism that drives employees to introduce new private technology into their working environment. In our study, we intentionally separate the impact that organizational IS performance and private technology use have on satisfaction with organizational IS and consider satisfaction's dynamics as a fundamental aspect in our research model. As a theoretical contribution, we suggest that familiarity with superior private technological alternatives for organizational IS decreases satisfaction with organizational IS and, thus, fosters behavioral change. In our empirical study, we found interaction effects that indicate that innovative employees, in contrast to non-innovative employees, reach a higher satisfaction level in situations with high organizational IS performance. Furthermore, we found that non-inert employees, in contrast to inert employees, become dissatisfied with organizational IS when they experience well-performing IS in their private environments.

Keywords: Consumerization, Post-adoption, Inertia, Personal Innovativeness with IT, Private Alternatives.

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1 Introduction

An ever-increasing number of employees have grown up in a world where computers and digital technologies have surrounded them. These employees, also known as *digital* natives (Prensky, 2001), have the experience and skills to compare their organizational information systems (IS) to alternatives or substitutes from their private lives. Phenomena such as consumerization and bring your own device (BYOD) demonstrate that some employees actually introduces new private technologies into their organizations and use these technologies for work-related tasks (French, Guo, & Shim, 2014; Gaß, Ortbach, Kretzer, Mädche, & Niehaves, 2015; Harris, Ives, & Junglas, 2012; Köffer, Ortbach, & Niehaves, 2014). It has become apparent that this new generation of employees is shaping their workspace by using private software, services, or even devices. Researchers have often identified the perception of superior usefulness or performance expectancy of private IS as a major driver of consumerization (Hopkins, Sylvester, & tate, 2013; Loose, Weeger, & Gewald, 2013; Ortbach, 2015; Ortbach, Bode, & Niehhaves, 2013; Weeger, Wang, & Gewald, 2015). The same applies to perceived ease of use (Hopkins et al., 2013; Ortbach, 2015; Weeger et al., 2015).

Traditional adoption and acceptance research has often assumed that employees reject new technologies or at least have difficulties accepting it (Venkatesh, Morris, Davis, & Davis, 2003; Vodanovich, Sundaram, & Myers, 2010). In particular, existing research has outlined that large parts of the workforce resist general change (Laumer, Maier, Eckhardt, & Weitzel, 2016; Oreg, 2003). We might call these employees inert because they favor doing their work as they have always done and prefer to stay with the status quo because changes would require them to attend training sessions or at least spend some time in an initial familiarization and acclimatization phase (Rivard & Lapointe, 2012). In other words, technology changes would cause additional effort that employees want to avoid (Kim & Kankanhalli, 2009; Polites & Karahanna, 2012).

In contrast, many employees readily accept new technologies and adapt to new workflows (Yoo, 2010). Therefore, phenomena such as consumerization, BYOD, and shadow IT describe the act of employees introducing new private IT into their organizations, and they challenge important assumptions in traditional adoption and acceptance research and the established top-down technology-diffusion approach in organizations (Junglas, Goel, Ives, & Harris, 2014, 2019; Leclercq-Vandelannoitte, 2015). So far, IT departments have centrally determined whether employees use new technology and, consequently, induced organizational change. However, today's employees take the initiative and introduce new IT, which forces their organizations to react (Harris et al., 2012; Leclercq-Vandelannoitte, 2015). This situation can become quite complex and potentially even threaten organizations as they do not formally approve particular new IT (shadow IT) (Haag & Eckhardt, 2017; Winkler & Brown, 2013). We still lack knowledge about why employees introduce new and private IS to their workplace rather than being inert, and only a few studies have dealt with personal factors (Dernbecher, Beck, & Weber, 2013; Junglas et al., 2014, 2019; Ortbach, 2015) or relative advantage (Junglas et al., 2019) to explain consumerization behavior. In this study, ye focus on revealing the underlying mechanism that drives employees to introduce new private technology into their working environment. In particular, we examine how inertia and personal innovativeness with IT influence employees who foster change in their job. Therefore, we address the following research question (RQ):

> **RQ:** How do inertia and personal innovativeness with IT influence employees who introduce private IT into their work environment?

We develop a research model based on related work from post-adoption research (Bhattacherjee, 2001; Polites & Karahanna, 2012). We also highlight the concepts of inertia (Polites & Karahanna, 2012) and personal innovativeness with IT (Agarwal & Prasad, 1998) in our research model to characterize employees. We argue that extensive experience with technology in their private lives enables employees to functionally evaluate organizational IS against alternatives using substitutes they know from their private experience, which, in turn, changes their personal reference values and makes them more prone to dissatisfaction with organizational IS (Bhattacherjee, 2001; Carver & Scheier, 1998). This argument has its foundations in the cybernetic control loop (Ashby, 1956; Carver & Scheier, 1998; Wiener, 1948).

To test our research model, we surveyed 167 employees online from different organizations and industries. We chose document and file sharing as a setting for our study as it represents a common task in both work environments and private life and comparable systems on both sides support it (Junglas et al., 2019). For our estimation, we used structural equation modeling (SEM) and partial least squares (PLS). With this study, we contribute to IS post-adoption research in that we found an initial indication that

the comparison between private and organizational IS affects employees' satisfaction with organizational IS and their intention to use private IS instead. We further discovered that the perceived performance of private and organizational IS affects active and inactive employees differently.

The paper proceeds as follows: in Section 2, we introduce related work and develop our hypotheses and research model. In Section 3, we describe our research method and outline the survey design. In Section 4, we present the data analysis and the results of our evaluation. In Section 5, we discuss our findings, present the study's implications, and suggest opportunities for future work.

2 Theoretical Background and Hypothesis Development

2.1 Background: Consumerization and Bring Your Own Device

In recent years, phenomena that describe employees who use private IS for work have received much attention in IS research. Researchers have termed these phenomena consumerization, bring your own device (BYOD), and shadow IT/IS (Köffer et al., 2014). Moschella, Neal, Opperman, and Taylor (2004) first used the term consumerization. For this paper, we define consumerization as follows: "the adoption of consumer devices and applications in the workforce" (Harris et al., 2012, p. 99). BYOD strategies, on the other hand, describe organizational strategies to formally approve and regulate consumerization behavior (Baskerville & Lee, 2013; French et al., 2014; Köffer et al., 2014). Researchers have termed non-approved (private) IT use in organizations shadow IT or shadow IS (György, Cleven, Uebernickel, & Brenner, 2012; Haag & Eckhardt, 2017; Köffer et al., 2014). This employee-driven diffusion of private IS into organizations fundamentally challenges the established IT-procurement approach in organizations (Junglas et al., 2014, 2019; Leclercq-Vandelannoitte, 2015). Traditionally, organizational IT departments selected and implemented IT systems, and even inert employees were supposed to merely adopt these systems (Leclercq-Vandelannoitte, 2015; Nan, 2011; Vodanovich et al., 2010). However, with employees using private IS for work, IT diffusion into organizations shifts from top-down to bottom-up (Leclercq-Vandelannoitte, 2015; Ortbach et al., 2013; Ortbach, Walter, & Öksüz, 2015; Weiß & Leimeister, 2012). This shift in direction introduces new challenges for organizations and their IT departments (Junglas et al., 2014; Koch et al., 2014).

2.2 Performance of Private IS vs. Performance of Organizational IS

We believe that two different effects impact satisfaction with organizational IS. Specifically, we believe that 1) the performance of organizational IS will drive satisfaction with organizational IS and 2) employees will compare the performance of organizational IS to the performance of their preferred private IS with the same functional affordance (see solid and dashed lines in Figure 1). Therefore, we intentionally use separate concepts for organizational IS performance and private IS performance. In doing so, we can separate their different impacts on satisfaction with organizational IS. Research so far has used comparative concepts such as the relative advantage of private over organizational systems (Junglas et al., 2019; Moore & Benbasat, 1991; Polites & Karahanna, 2012), which makes it more difficult to separate the different influence factors we have in mind.

Employees typically use organizational IS in a post-adoption stage when private alternatives emerge. Therefore, we first define satisfaction with an organizational IS as a function of an expectation towards its performance (Bhattacherjee, 2001; Oliver, 1980). An organizational IS that meets or exceeds a user's expectations will be more likely to satisfy the user, whereas an organizational IS that does not meet a user's expectations will be more likely to dissatisfy the user (Khalifa & Liu, 2003). Khalifa and Liu (2003) found evidence that the performance of an IS over a certain time span influences how individuals perceive it: building on a model by Chin and Lee (2000), they showed that satisfaction with an IS changes over time as experience-based drivers emerge (Khalifa & Liu, 2003). Therefore, satisfaction in post-adoption stages does not correlate with satisfaction in adoption stages (Khalifa & Liu, 2003). Furthermore, Karahanna, Straub, and Chervany (1999) have argued that usage experience changes perceived performance over time, and post-adoption literature has found that satisfaction with organizational IS positively correlates with employees' perception towards the performance of organizational IS (Bhattacherjee, 2001; Bhattacherjee & Premkumar, 2004). To sum up, in post-adoption stages, perceived performance rather than desires drives satisfaction with organizational IS (Khalifa & Liu, 2003). Thus, we hypothesize:

H1: Organizational IS performance[1] has a positive effect on satisfaction with organizational IS.

Next, we analyze how personal innovativeness affects the relationship between organizational IS performance and satisfaction with organizational IS in the post-adoption phase. Personal innovativeness with IT is a personal trait and relatively stable (Agarwal & Prasad, 1998). The concept has its roots in Rogers' (1962) diffusion of innovations theory. Rogers (1995) was the first to describe individuals that adopt innovations earlier than others as being more innovative. We argue that personal innovativeness with IT has a moderating impact on the relationship between organizational IS performance and satisfaction with organizational IS (H1) for several reasons: personal innovativeness with IT distinguishes people who will try any new information technology (Agarwal & Prasad, 1998), adopt innovations earlier than others (Rogers, 1995), and actively seek new technologies (Agarwal & Prasad, 1998). In sum, people with high personal innovativeness with IT have high technical knowledge and competence (Rogers, 1995). We conclude that experience with organizational IS and organizational IS performance in the post-adoption stage (Khalifa & Liu, 2003) has a stronger effect on people with high personal innovativeness with IT than on people with low personal innovativeness with IT. Discrepancies in perception, therefore, lead to higher disconfirmation—either positive with high performance values or negative with low performance values. In consequence, satisfaction (Festinger, 1957; Oliver, 1980) with organizational IS has a stronger effect on people with high personal innovativeness with IT compared to people with low personal innovativeness. Therefore, personal innovativeness with IT moderates the relationship between organizational IS performance and satisfaction with organizational IS (H1). Thus, we hypothesize:

H2: Personal innovativeness with IT strengthens the positive relationship between the organizational IS performance and satisfaction with organizational IS.

We note that this moderating effect depends on systems in the post-adoption stage. Due to satisfaction's dynamic nature, experience-based expectations and performance drive it in the post-adoption stage (Bhattacherjee, 2001; Bhattacherjee & Premkumar, 2004; Karahanna et al., 1999; Khalifa & Liu, 2003). Another important and different effect in the post-adoption phase goes back to inertia (Bawa, 1990; Oliver, 1999; Polites & Karahanna, 2012). To explain the role of inertia in our model (see Section 2.4 below), however, we first need to introduce the fundamental effect that personal technological alternatives have on satisfaction with organizational IS.

2.3 The Effect that Private IS Performance has on Satisfaction with Organizational IS

While satisfaction with organizational IS occurs in their post-adoption stage, emerging private alternatives remain in the adoption stage (solid versus dashed lines in Figure 1) if users even adopt them at all and use them for work in organizational settings. To theorize how the private IS performance (in their adoption stage) impacts satisfaction with organizational IS (in their post-adoption stage), we reference the three-step approach that Burton-Jones and Grange (2013) and Ostrom (2005) used: 1) the cybernetic control loop serves as a general framework to explain how fundamental concepts interact, 2) the framework is applied to a specific context (development of hypothesis H3 in this section), 3) a testable research model is developed as a nomological net (see Figure 1).

Wiener's (1948) cybernetic control loop is a process model that allows one to explain how employees adapt their behavior and how they prefer to use their private IS for work. A well-established model, the cybernetic control loop explains IS phenomena such as effective IS use (Burton-Jones & Grange, 2013), malicious IT avoidance (Liang & Xue, 2009), and secure behavior continuance (Steinbart, Keith, & Babb, 2016). It distinguishes inputs (perceptions) from reference values that it compares to each other (comparator). This comparison constitutes a major component of the model (Ashby, 1956). Detected differences between perceptions and reference values might lead to specific actions (output) that should ideally overcome or reduce them. Therefore, actions either effect environmental changes or adapt the reference value. These two fundamental reactions enable the control loop to react to environmental disturbances in the ongoing process of fitting the system and its environment. Adapting the reference value marks the fundamental reaction in the control loop that we care about in the first place. Usually, an

[1] From this point, we use performance as a synonym for perceived performance to increase readability.

external disturbance that affects the perceived environment and the internal comparator triggers the cybernetic control loop.

Applying the framework to our study context, we assume that the emergence of innovative IS in private life corresponds to a disturbance that affects an inert or non-inert employee's environment. Gregory, Kaganer, Henfridsson, and Ruch (2018) recently distinguished employees as consumer customers and consumer workers. In doing so, they conceptually clarified that employees as customers experience the latest technological developments and compare that experience with their experience at work in their role as employees. This new experience and knowledge create needs (Rogers, 1995) and increases the reference values to which employees compare their organizational IS (Köffer et al., 2014). Therefore, we theorize that private IS performance influences the personal reference value in the feedback loop's comparator. However, with a growing number of digital natives entering the workforce (Vodanovich et al., 2010), an increasing number of employees compare organizational IS with private IS that have the same functional affordances. In consequence, the same established performance level of an organizational IS will lead to a negative discrepancy when compared to an increased personal reference value (Gregory et al., 2018). Finally, negative discrepancy, in turn, leads to decreasing satisfaction with organizational IS (Festinger, 1957). To summarize, private IS performance will increase personal reference values, and satisfaction with organizational IS will decrease due to the negative discrepancy of organizational IS performance with the now-increased personal reference values. Thus, we hypothesize:

H3: Private IS performance has a negative effect on satisfaction with organizational IS.

2.4 The Effect of Inertia on Performance of Private IS

We note two issues concerning the effect that private IS performance has on satisfaction with organizational IS (H3). First, the effect depends on organizational IS in the post-adoption stage. Second, the effect rests on an increase in the personal reference value in the cybernetic feedback loop's comparator. This increase results from a private alternative IS with the same functional affordances as the incumbent organizational IS performing at a similar or superior level. Inert persons might react differently towards a private alternative IS compared to non-inert persons. From a theoretical point of view, for example, the personal reference value in the cybernetic feedback loop's comparator might increase more strongly for non-inert persons than for inert persons. Therefore, we focus on how inertia impacts the interplay between private IS performance and satisfaction with organizational IS. Together, we can use the issues we mention above (i.e., organizational IS in the post-adoption stage and an increase in the personal reference value in the cybernetic feedback loop's comparator) to theoretically explain how and why inertia moderates the relationship between private IS performance and satisfaction with organizational IS (H3). Therefore, we formally introduce inertia as a theoretical concept:

Inertia comprises "user attachment to, and persistence in, using an incumbent system (i.e., the status quo), even if there are better alternatives or incentives to change" (Polites & Karahanna, 2012, p. 24). On an individual level, inertia describes the tendency to repurchase a brand or product in contrast to variety-seeking behavior (Bawa, 1990; Oliver, 1999; Polites & Karahanna, 2012). Moreover, the way in which Polites and Karahanna (2012) conceptualize inertia refers to a specific incumbent system and does not specify a human character trait.

Using the model of end-user computing satisfaction (Chin & Lee, 2000) and Khalifa and Liu's (2003) empirical findings, we can explain how and why inertia moderates the relationship between the private IS performance and satisfaction with organizational IS (H3): Chin and Lee (2000, p. 556) divided satisfaction with an IS into expectation-based satisfaction and desire-based satisfaction. Based on this model, Khalifa and Liu (2003) empirically showed that, in the adoption stage, expectation and desire drive satisfaction. Furthermore, Polites and Karahanna (2012) described inertia as the manifestation of a status quo bias in the adoption phase. We argue that, as soon as this status quo bias manifests and inertia becomes strongly pronounced, an alternative private IS will not alter the personal reference value in an employee's cybernetic comparator. In consequence, satisfaction with the incumbent organizational IS will not change even if better alternatives appear. Therefore, inertia explains why individuals stick with a current state (i.e., an incumbent system) in the post-adoption stage, even though they know about and can access better alternatives (Samuelson & Zeckhauser, 1988). Employees with inertia towards the incumbent organizational IS will avoid variety-seeking behavior (Bawa, 1990; Oliver, 1999; Polites & Karahanna, 2012) and, therefore, not trigger the cybernetic control loop as we describe in H3. Consequently, employees with inertia towards organizational IS will remain satisfied with the incumbent system even if

they know about better alternatives from their private lives. Thus, the triggering mechanism in the cybernetic feedback loop will activate only in non-inert employees; it will not activate in inert employees.

To sum up, both the issues we mention above constitute conditions for inertia to act as a moderator (i.e., 1) organizational IS must be in the post-adoption stage and 2) a new and better private alternative needs to increase the cybernetic comparator's reference value, which will not happen for people with inertia towards the organizational IS). Both prerequisites are met by the relationship between private IS performance and satisfaction with organizational IS. Therefore, we hypothesize that inertia is moderator for this relationship. We hypothesize:

H4: Inertia attenuates the negative relationship between private IS performance and satisfaction with organizational IS.

Concerning inertia as a moderator, we note that inertia will have no effect without the second condition. Therefore, we do not expect inertia to moderate the relationship between performance of organizational IS and satisfaction with organizational IS due to the effect that organizational IS performance has on satisfaction with organizational IS (H1). While this relationship fulfills the first condition, it cannot fulfill the second condition because it arises due to the performance of the organizational IS itself. The way we conceptualize two separate factors that influence satisfaction with organizational IS in our model—one from the organizational IS performance (H1) and one from the private IS performance (H3)—forms the basis for our extracting and using inertia as a moderator in H3.

In Figure 1, we depict our research model as a nomological net. The attenuating moderator inertia has a positive sign (+) in H4, while the negative relationship has a negative sign in H3 (-). In particular, we need to explain the positive sign (+) for H4: with increasing private IS performance, satisfaction with organizational IS will decrease because H3 has a negative sign but the fact that the moderator moves in the opposite direction due to the positive sign in H4 will attenuate this decreasing effect. Equation 1 algebraically specifies how the attenuating moderator inertia (H4) interacts with the relationship between private IS performance and satisfaction with organizational IS (H3):

$$\text{Satisfaction with Organizational IS} = \beta_0 - \beta_3 \text{Performance of Private IS} + \beta_4 (\text{Performance of Private IS} * \text{Inertia}) \quad (1)$$

2.5 Personal Innovativeness with IT and Inertia

Another important relationship exists between personal innovativeness (a character trait) and inertia. Innovative individuals actively seek new technologies (Agarwal & Prasad, 1998), which, in our case, means that employees search for a personal IS that offers comparable features or characteristics to an incumbent organizational IS. On the other hand, inertia develops over time with respect to one specific incumbent system, and, in our case, inertia develops with respect to an incumbent organizational IS "even if there are better alternatives or incentives to change" (Polites & Karahanna, 2012, p. 24). We conclude that innovative people, due to their openness towards new technological trends, will be less likely to develop inertia towards an incumbent system over time. Therefore, we follow Polites and Karahanna's (2012) argumentation and hypothesize:

H5: Personal innovativeness with IT has a negative effect on inertia.

2.6 Satisfaction and Intention to Use Private IS for Work

In this study, we focus on explaining how inertia and personal innovativeness with IT influence employees who introduce private IT into their work environment. In the paper thus far, we argue that personal innovativeness and inertia influence how organizational IS performance on the one hand and private IS performance on the other hand affect satisfaction with an incumbent organizational IS in the post-adoption stage. Now, we focus on explaining the relationship between satisfaction with the incumbent organizational IS in the post-adoption stage and employees' intention to use an alternative private IS for work.

Fundamentally, satisfaction is an antecedent for loyalty and repurchase intention (Oliver, 1999). Bhattacherjee (2001) used satisfaction to explain IS users' continuance intention in the post-adoption stages. Moreover, researchers have shown that satisfaction has a negative influence on users' intention to switch from one IS to a substitute (Bhattacherjee, Limayem, & Cheung, 2012; Bhattacherjee & Park, 2014). In sum, users remain loyal to an incumbent system if satisfied but change their intention and

attitude towards the system if dissatisfied (Gaß et al., 2015; Ives, Olson, & Baroudi, 1983). We conclude that dissatisfaction with an incumbent organizational IS will increase the probability that users will introduce private alternative IS with comparable functional affordances into their work environment. That means that satisfaction with organizational IS will reduce users' tendency to introduce private IS into the work environment. Thus, we hypothesize:

H6: Satisfaction with organizational IS has a negative influence on intention to use private IS for work.

In Figure 1, we summarize all our hypotheses and complete research model as a nomological net.

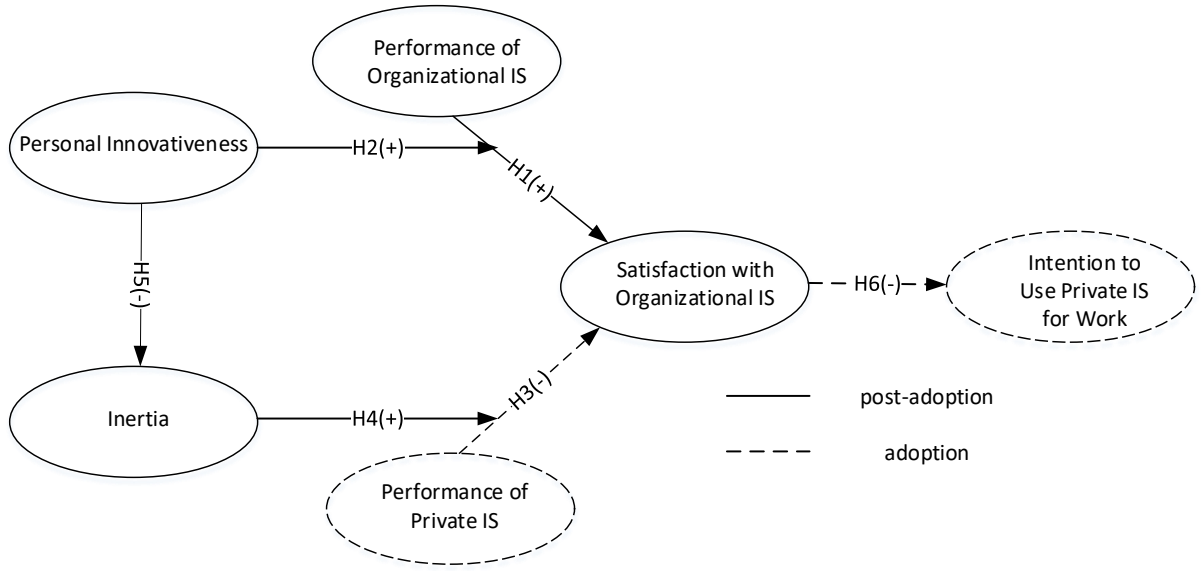

Figure 1. Research Model

3 Research Methodology

3.1 Data Collection

We tested our research model using data that we collected from a dynamic online survey. We implemented the survey using the open-source software LimeSurvey. We collected data from December, 2016, to December, 2017. We chose the survey method since it suits efforts to capture personal beliefs and attitudes (Fang et al., 2014). In total, 301 participants followed up on our invitation to take part in the survey. Subsequently, we had to drop 100 observations from participants who did not complete the questionnaire. In addition, we dropped 34 participants who did not use a file-sharing system in either their work or private life and, therefore, did not match the requirements of our study's hypothetical file-sharing scenario. As a result, we had 167 remaining valid observations. In Table 1 (next page), we show the respondents' demographic data.

3.2 Survey Design

The online survey comprised three parts. In the first part, we asked participants to choose one system they use predominantly for file sharing in both private and work life. Therefore, we presented the participants with two lists of organizational systems (FTP server, external data storage, SharePoint, email, Dropbox, organizational cloud solution, Box, EMC Syncplicity) and private systems (Dropbox, Google Drive, iCloud, OneDrive, SpiderOak, FileSync). Also, participants could add their own system if the respective list did not contain it. At this stage, we screened out all participants that did not use any file-sharing system in their private or work life. In the second part, we captured how the participants perceived the performance of their organizational IS for document and file sharing and their respective private alternative, their satisfaction with their organizational IS, and their intention to use their private IS for work. We further assessed the participants' inertia and personal innovativeness with IT. We automatically inserted the respective file-sharing systems that we retrieved in the first part of the survey into the

performance, inertia, and intention items. We rated performance, personal innovativeness with IT, inertia, and intention to use private IS for work on seven-point Likert scales using established constructs from Agarwal and Prasad (1998), Davis, Bagozzi, and Warshaw (1989), Polites and Karahanna (2012), and Venkatesh et al. (2003). For inertia, we followed Polites and Karahanna (2012) and operationalized it as a second-order formative, first-order reflective, multidimensional construct. We assessed satisfaction with organizational IS on a four-point semantic differential as used by Bhattacherjee (2001). We display all items in Table A1 (see Appendix A). We captured all constructs except personal innovativeness with IT with respect to the document and file-sharing context. In the third part of the survey, we collected the participants' socio-demographic data.

Table 1. Sample Characteristics

Variable	Category		Frequency
Gender	Male		102 (61.08%)
	Female		65 (38.92%)
Education	Less than high school		2 (1.20%)
	High school graduate		31 (18.56%)
	Professional training		8 (4.79%)
	Bachelor's / master's degree		126 (75.45%)
Income	< 20,000 €		30 (17.96%)
	20,000 – 39,999 €		18 (10.78%)
	40,000 – 59,999 €		46 (27.54%)
	60,000 – 79,999 €		15 (8.98%)
	80,000 – 99,999 €		7 (4.19%)
	> 100,000 €		4 (2.40%)
	Missing values		47 (28.14%)
Industry	Automotive industry		13 (7.78%)
	Aviation and shipping industry		4 (2.40%)
	Education		12 (7.19%)
	Financial sector		19 (11.38%)
	Health and social care		8 (4.79%)
	Information and communication technology		37 (22.16%)
	Logistics		23 (13.77%)
	Media and marketing		19 (11.38%)
	Transport and mobility		16 (9.58%)
	Others		16 (9.58%)
Policy	Forbidden		81 (48.50%)
	Not forbidden		86 (51.50%)
Variable	**Range**	**Mean**	**Std. dev.**
Age	(19, 60)	28.40	7.13
Seniority	(0, 23)	3.28	3.04

4 Data Analysis and Results

We used PLS (SmartPLS 3) to analyze the data and test our research model. PLS represents an adequate statistical method for computing our research model as we operationalized inertia as a second-order formative, first-order reflective, multidimensional construct (following Polites & Karahanna, 2012). PLS constitutes the most suitable option for assessing models with hierarchical and/or formative constructs (Hair et al., 2011; Hair, Hollingsworth, Randolph, & Chong, 2017). To incorporate the higher-

order construct (inertia in our case) into our model, we followed the two-stage approach that Hair, Hult, Ringle, and Sarstedt (2014) suggested, which we explain in the following paragraphs.

In our model, we conceptualize inertia as a higher-order multidimensional construct that comprises different dimensions, the so-called lower-order constructs (affective inertia, behavioral inertia, cognitive inertia) (following Polites & Karahanna, 2012). The lower-order constructs form the higher-order construct (formative relationship) (Polites & Karahanna, 2012). In addition to this formative relationship, our model comprises a theoretically important predecessor (personal innovativeness) of inertia (H5 in Figure 1). As Ringle, Sarstedt, and Straub (2012) revealed, calculating the predecessor's (personal innovativeness) influence on the higher-order construct (inertia) requires particular attention because one must clearly separate it from the influence that the respective lower-order constructs (affective inertia, behavioral inertia, cognitive inertia in our case) have on the higher-order construct (inertia). Typically, lower-order constructs typically explain almost all the variance in their higher-order construct (Hair, Hult, Ringle, & Sarstedt, 2014; Ringle et al., 2012), which means that one might lose the influence of theoretically required predecessors when analyzing the structural model. To overcome this difficulty, Hair et al. (2014, pp. 233-234) propose that researchers mix the so-called repeated indicator approach with latent variable scores in two stages.

First, in the repeated indicator approach, one calculates the latent variable scores for the lower-order constructs (affective inertia, behavioral inertia, cognitive inertia) using their respective indicators. In the same stage, one calculates the latent variable score for the higher-order construct (inertia) re-using all lower-order constructs' indicators. The lower-order constructs explain all the variance of the higher-order construct. After this stage, one evaluates the overall measurement model. In the second stage, the latent variable scores for the lower-level constructs (affective inertia, behavioral inertia, cognitive inertia) that one obtained in the first stage serve as manifest variables in the measurement model for the higher-order construct (inertia). In this second stage, one imbeds the higher-order construct (inertia) in the nomological net, which allows other latent variables (personal innovativeness in our model) as predecessors to explain some of its variance.

4.1 System Usage

Table 2. Descriptive Statistics of System Usage

Private IS	Frequency	Organizational IS	Frequency
Dropbox	109 (65.27%)	Email	46 (27.54%)
GoogleDrive	28 (16.77%)	SharePoint	38 (22.75%)
OneDrive	9 (5.39%)	Organizational cloud solution	29 (17.37%)
iCloud	8 (4.79%)	Network drive	16 (9.58%)
FileSync	2 (1.20%)	FTP server	14 (8.38%)
OwnCloud	2 (1.20%)	Box	6 (3.59%)
WhatsApp	2 (1.20%)	External data storage	5 (2.99%)
Other	7 (4.19%)	Other	13 (7.78%)

In Table 2, we display which systems the respondents mentioned using to share files in their work and private life. In our sample, participants predominantly used Dropbox as their private system for sharing documents and files: out of the 167 participants, 109 (65.27%) used it. In contrast, the participants used diverse organizational IS: users most commonly used email (46 users or 27.54%), SharePoint (38 users or 22.75%), and closed cloud solutions (29 users or 17.37%).

4.2 Measurement Validation

First, we assessed adequate reliability. All item loadings exceeded the recommended threshold of 0.7 (see Table 3), which supports adequate reliability (Hair et al., 2014). Second, we assessed internal consistency reliability using Cronbach's alpha and composite reliability (Hair et al., 2014). All constructs' indicators exceeded 0.7, which supports internal consistency reliability. Moreover, constructs' average variance extracted (AVE) exceeded the threshold of 0.5, which supports satisfactory convergent validity (Hair et al., 2014). We further confirmed discriminant validity using the Fornell-Larker criterion and the heterotrait-monotrait ratio (HTMT). Table 4 shows that the square roots of the constructs' AVEs exceeded

the correlations with every other construct (Fornell & Larcker, 1981). Also, all HTMT values were below the recommended conservative threshold of 0.85 (see Table 5) (Henseler, Ringle, & Sarstedt, 2015).

Table 3. Construct Statistics

	Number of Items	Construct loadings		Cronbach's alpha	Composite reliability	AVE	Mean	SD
OO	5	**OP1**	0.889	0.938	0.953	0.802	4.881	1.484
		OP2	0.913					
		OP3	0.915					
		OP4	0.908					
		OP5	0.853					
IA	3	**IA1**	0.700	0.728	0.849	0.653	3.690	1.493
		IA2	0.860					
		IA3	0.853					
IB	3	**IB1**	0.929	0.926	0.953	0.871	4.383	1.793
		IB2	0.924					
		IB3	0.946					
IC	3	**IC1**	0.964	0.971	0.981	0.946	3.429	1.699
		IC2	0.976					
		IC3	0.977					
Int	3	**Int1**	0.992	0.985	0.990	0.970	4.240	2.001
		Int2	0.973					
		Int3	0.990					
PI	3	**PI1**	0.898	0.892	0.929	0.815	4.594	1.558
		PI2	0.932					
		PI3	0.878					
PP	5	**PP1**	0.925	0.961	0.970	0.865	4.442	1.680
		PP2	0.936					
		PP3	0.938					
		PP4	0.924					
		PP5	0.929					
Sat	3	**Sat1**	0.886	0.842	0.905	0.760	2.798	0.632
		Sat2	0.873					
		Sat3	0.855					

OP = organizational IS performance, IA = affective inertia, IB = behavioral inertia, IC = cognitive inertia, Int = intention to use private IS for work, PI = personal innovativeness with IT, PP = private IS performance, Sat = satisfaction with organizational IS, AVE = average variance extracted, SD = standard deviation.

Table 4. Fornell-Larker Criterion

	OP	IA	IB	IC	Int	PI	PP	Sat
OP	**0.896**							
IA	0.335	**0.808**						
IB	0.390	0.669	**0.933**					
IC	0.138	0.488	0.504	**0.972**				
Int	-0.243	-0.353	-0.338	-0.093	**0.985**			
PI	0.063	-0.192	-0.134	-0.199	0.061	**0.903**		
PP	-0.010	-0.324	-0.200	-0.098	0.603	0.182	**0.930**	

Sat	0.439	0.441	0.382	-0.014	-0.383	-0.038	-0.256	**0.872**

Note: diagonal elements represent the square root of the AVE. Off-diagonal elements are the correlations among latent constructs. PO = organizational IS performance, IA = affective inertia, IB = behavioral inertia, IC = cognitive inertia, Int = intention to use private IS for work, PI = personal innovativeness with IT, PP = private IS performance, Sat = satisfaction with organizational IS.

Table 5. Heterotrait Monotrait Ratio

	OP	IA	IB	IC	Int	PI	PP	Sat
OP								
IA	0.405							
IB	0.419	0.814						
IC	0.147	0.583	0.531					
Int	0.252	0.414	0.355	0.95				
PI	0.098	0.223	0.141	0.197	0.06			
PP	0.068	0.382	0.211	0.099	0.617	0.194		
Sat	0.470	0.540	0.395	0.045	0.378	0.046	0.255	

OP = organizational IS performance, IA = affective inertia, IB = behavioral inertia, IC = cognitive inertia, Int = intention to use private IS for work, PI = personal innovativeness with IT, PP = private IS performance, Sat = satisfaction with organizational IS.

4.3 Common Method Bias

Since we obtained self-reported data and measured all constructs at the same point in time using a survey, common method bias (CMB) could be a potential concern (Podsakoff & Organ, 1986). Therefore, we ran Harman's single factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The results of the principal components analysis show that no single factor explained more than 30.14 percent of the variance, which provides an initial indication that our data does not suffer from CMB.

Table 6. VIFs of Latent Variables

	OP	IA	IB	IC	Int	PI	PP	Sat
OP		1.411	1.397	1.271	1.399	1.393	1.166	1.328
IA	2.257		1.932	1.763	2.424	2.104	2.333	2.171
IB	2.308	1.835		1.863	2.272	2.106	2.287	2.173
IC	1.484	1.478	1.392		1.493	1.779	1.597	1.311
Int	1.606	1.843	1.815	1.798		1.834	1.345	1.795
PI	1.027	1.093	1.093	1.096	1.101		1.056	1.089
PP	1.493	1.704	1.752	1.774	1.231	1.696		1.765
Sat	1.583	1.530	1.639	1.124	1.651	1.605	1.569	

OP = organizational IS performance, IA = affective inertia, IB = behavioral inertia, IC = cognitive inertia, Int = intention to use private IS for work, PI = personal innovativeness with IT, PP = private IS performance, Sat = satisfaction with organizational IS.

4.4 Structural Model

We tested the structural model by applying bootstrapping with 5,000 subsamples. We represent the full model with control and latent variables in Table 7 and Figure 2. The full model explained 6.8 percent of the variance of inertia (4.2% without controls), 39.8 percent of the variance of satisfaction with organizational IT (37.4% without controls), and 17.9 percent of the variance of intention to use private IS for work (14.7% without controls). The adjusted R^2 value was 0.033 for inertia, 0.355 for satisfaction with organizational IS, and 0.149 for intention to use private IS for work. The Q^2 values of all endogenous variables were larger than zero, which confirms that the model has sufficient predictive relevance (Hair et al., 2014). The standardized root mean square residual (SRMR) matched Hu and Bentler's (1999) recommended cut-off value of 0.09 and slightly exceeded Hoyle's (2012) recommend cutoff value of 0.08. The results support all our hypotheses (i.e., H1-H6). Table 7 further illustrates that we found only one significant relationship for a control variable (gender → inertia). All other control variables did not have a significant influence on the endogenous variables or significantly change the structural model's effects.

Figure 2 and Table 7 show two interaction effects that significantly impacted satisfaction with organizational IS (Sat): 1) inertia's interaction with private IS performance (PP) (inertia x PP in Table 7) and 2) personal innovativeness with IT's (PI) interaction with organizational IS performance (OP) (PI x OP in Table 7). As Figure 2 shows, inertia moderated the relationship between private IS performance (PP) and satisfaction with organizational IS (Sat), while personal innovativeness with IT (PI) moderated the relationship between organizational IS performance (OP) and satisfaction with organizational IS (Sat). Thus, conditional to different levels of inertia, private IS performance (PP) varies in how strongly it affects satisfaction with organizational IS (Sat) with the difference in effect being significant. Likewise, conditional to different levels of personal innovativeness with IT (PI), organizational IS performance varies in how strongly it affects satisfaction with organizational IS (Sat) with the difference in effect being significant. These results concur with H4 (inertia moderates the relationship between private IS performance (PP) and satisfaction with organizational IS (Sat)) and H2 (personal innovativeness with IT (PI) moderates the relationship between organizational IS performance (OP) and satisfaction with organizational IS (Sat)).

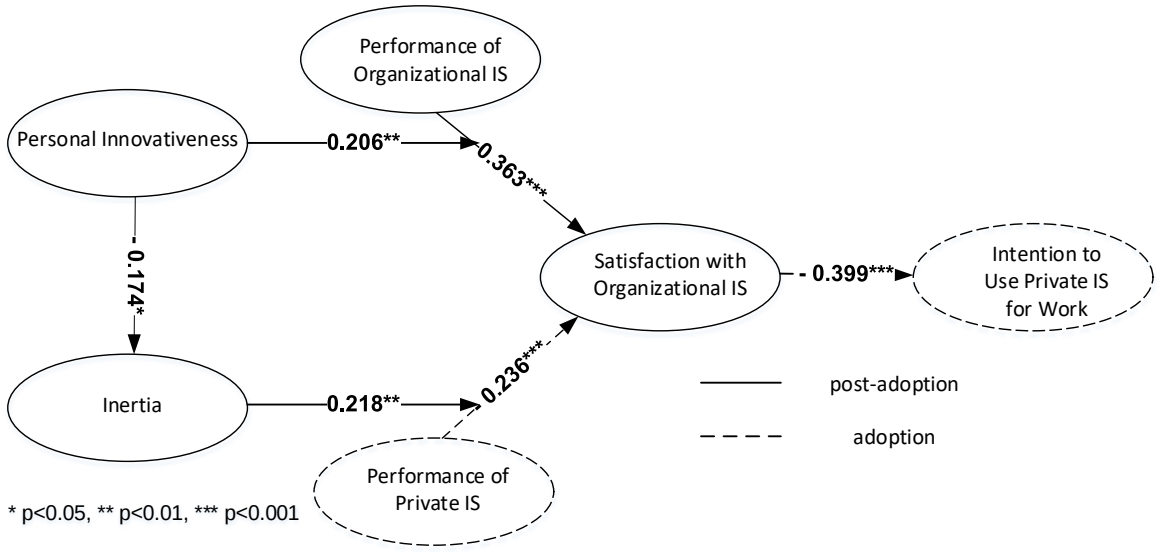

Figure 2. Structural Model Results

Table 7. Structural Model Results

	Dependent variables					
Independent variables	**Inertia**		**Sat**		**Int**	
OP			0.363***	(< 0.001)		
PP			-0.236***	(< 0.001)		
Inertia			0.102	(0.167)		
PI	-0.174*	(0.030)	0.064	(0.324)		
Inertia x PP			0.218**	(0.007)		
PI x OP			0.206**	(0.003)		
Sat					-0.399***	(< 0.001)
Controls						
Income	-0.007	(0.933)	0.008	(0.921)	0.133	(0.153)
Forbidden	0.058	(0.448)	-0.094	(0.177)	-0.091	(0.208)
Seniority	-0.002	(0.980)	-0.049	(0.575)	0.047	(0.574)
Age	-0.046	(0.661)	0.023	(0.790)	0.002	(0.981)
Gender	0.156*	(0.045)	0.113	(0.083)	0.058	(0.442)
Predictive accuracy and relevance						

Table 7. Structural Model Results

R^2	0.068	0.398	0.179
R^2 adjusted	0.033	0.355	0.149
Q^2	0.013	0.276	0.136
P values of t statistics in parentheses; * p < 0.05, ** p < 0.01, *** p < 0.001. OP = organizational IS performance, PP = private IS performance, PI = personal innovativeness with IT, Sat = satisfaction with organizational IS.			

We demonstrate these interaction effects and their different strengths conditional to different levels of the respective moderators following Aiken, West, and Reno's (1991) and Cohen, Cohen, West, and Aiken's (2013) recommendations. Following Aiken et al. (1991), in Figure 3, we show the slopes of the simple regression lines from satisfaction with organizational IS (Sat) on private IS performance (PP) at different levels of the moderating variable inertia. As the low inertia level, we chose the respective mean minus one standard deviation; as the high inertia level, we chose the mean plus one standard deviation as Cohen et al. (2013) recommend. Figure 3 illustrates that satisfaction with the organizational IS (Sat) for employees with high inertia (mean + standard deviation) show only a marginal reaction towards private IS performance (PP) (solid line in Figure 3). This finding means that inert employees with respect to organizational IS will not change their degree of satisfaction with organizational IS (Sat) if they experience better performance with their private IT (PP). However, employees with low inertia with respect to organizational IS (mean – standard deviation) show a negative reaction in satisfaction with organizational IS (Sat) when they experience better performance with their private IT (PP). Therefore, the dashed line in Figure 3 has a negative slope, which means that non-inert persons become dissatisfied with organizational IS (Sat) with increasing private IS performance (PP) values. The significance of the interaction term (inertia x PP in Table 7) states that the reactions that inert and non-inert people have (and, therefore, the slopes in Figure 3) significantly differ (Aiken et al., 1991).

Following Cohen et al.'s (2013) recommendations for low levels (mean – standard deviation) and high levels (mean + one standard deviation) again, we illustrate the moderation effect that personal innovativeness with IT (PI) had on the relationship between the organizational IS performance (OP) and satisfaction with organizational IS (Sat) in Figure 4. People with high personal innovativeness with IT (PI) (solid line in Figure 4) show strong reactions in satisfaction with organizational IS (Sat) with increasing levels of organizational IS performance (OP). The solid line has a strictly positive slope. However, people with high personal innovativeness with IT (PI) (dotted line in Figure 4) show only weak positive reactions in satisfaction with organizational IS (Sat) when the organizational IS performance (OP) increases. Therefore, the dotted line does not rise as steeply as the solid line. This finding means that, with respect to satisfaction, employees with high personal innovativeness with IT (PI) (mean + standard deviation, solid line in Figure 4) reacts more sensitively towards changes in the organizational IS performance (OP) when compared to employees with low personal innovativeness with IT (PI) (mean – standard deviation, dotted line in Figure 4).

To summarize the interaction effects: employees with low inertia and high personal innovativeness (PI) will more likely feel dissatisfied with organizational IS (Sat) when either the organizational IS performance (OP) decreases or the private IS performance (PP) increases. In consequence, following our research model (see H6 in Figure 1) and the significant negative relationship between satisfaction with organizational IS (Sat) and intention to use private IS (Int) (see Figure 2 and Table 7), non-inert and highly innovative persons will become more active in changing their work environment.

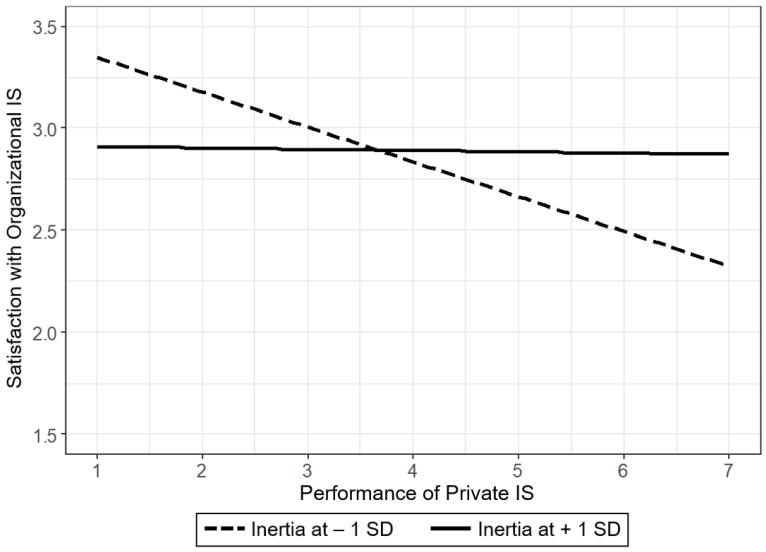

Figure 3. Moderation of Inertia and Private IS Performance

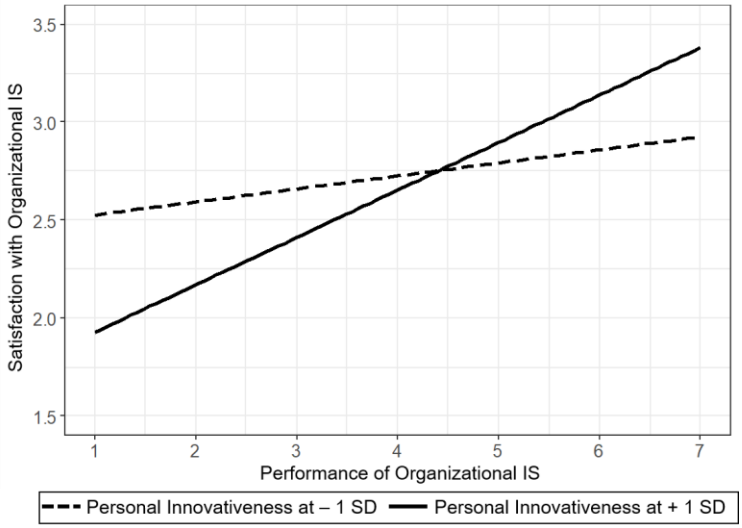

Figure 4. Moderation of Personal Innovativeness with IT and Organizational IS Performance

4.5 Post Hoc Analysis

To better understand our results and check their robustness, we conducted several post hoc analyses. First, we examined the effect size (f^2) of all exogenous constructs (see Table 8). Organizational IS performance had a medium-sized effect on satisfaction with organizational IS as did satisfaction with organizational IS on intention to use private IS for work. All other effects were small or respectively less than small. We again checked for multicollinearity. We report the variance inflation factors for all exogenous constructs in Table C1 (see Appendix C). As all VIFs were below the recommended threshold of 5.0 (Hair, Ringle, & Sarstedt, 2011), we assume that multicollinearity did not pose an issue for the structural model results.

Table 8. Effect Size F^2

	Inertia	Sat	Int
OP		0.175 (medium)	
PP		0.083 (small)	

PI	0.028 (small)	0.005	
Inertia		0.013	
Inertia x PP		0.075 (small)	
PI x OP		0.070 (small)	
Sat			0.188 (medium)
Seniority	< 0.001	0.003	0.002
Age	0.001	0.001	<0.001
Forbidden	0.003	0.013	0.009
Income	< 0.001	< 0.001	0.017 (small)
Gender	0.023 (small)	0.018 (small)	0.004
OP = organizational IS performance, PP = private IS performance, PI = personal innovativeness with IT, Sat = satisfaction with organizational IS			

Second, we estimated three alternative models (see Table C2, C3, and C4 in Appendix C). In the first alternative model, we included well-known relationships in the literature on adoption (Davis et al., 1989; Polites & Karahanna, 2012): the direct relationships between the private IS performance and intention to use private IS for work, between the organizational IS performance and intention to use private IS for work, and between inertia and intention to use private IS for work. Our results from this model illustrate that, even though we included these relationships in our model, all our hypothesized relationships remained supported. In the second alternative model, we included the opposing moderation effects to the already hypothesized moderations effects. The additional moderations (inertia x performance of organizational IS → satisfaction; personal innovativeness with IT x performance of private IS → satisfaction) were not significant as we theoretically expected. Moreover, the hypothesized main effects remained unchanged. In the third alternative model, we combined all the aforementioned relationships in one model. Likewise, the hypothesized main effects remained stable.

Finally, we also performed a mediation analysis to test the indirect effects that both performance constructs had on intention to use private IS for work. To test these indirect effects, we followed Zhao et al.'s (2010) approach. By applying bootstrapping with 5,000 samples, we found that organizational IS performance had a significant direct effect on intention to use private IS, which satisfaction with organizational IS mediated (-0.064*, p-value: 0.027). We consider this indirect effect a complementary mediation as the direct effect that organizational IS performance had on satisfaction with organizational IS remained significant (0.362***, p-value: <0.001) (see Table C2) and the product of all three relevant paths was positive (Zhao, Lynch, & Chen, 2010). Furthermore, we did not find that private IS performance had an indirect effect on intention to use private IS (0.041; p-value: 0.054).

5 Discussion

In this study, we focus on understanding how inertia and personal innovativeness with IT influence employees who introduce private IT into their work environment. We propose satisfaction with organizational IS as an antecedent for behavioral change and intention to use private IS for work. Intentionally separating organizational and private IS performance, we explain their idiosyncratic impacts on satisfaction with organizational IS. We analyzed the impact that private IS performance had on satisfaction with organizational IS using the cybernetic control loop as a general framework. In particular, we use the cybernetic comparator as the core concept in the cybernetic control loop to feature inertia as a core driver of satisfaction's dynamics with organizational IS.

We highlight the impact that private IS performance has on the reference value in the cybernetic comparator to explain how private IS influence disconfirmation as a predecessor of satisfaction with organizational IS. We then argue and show that inertia as a moderator attenuates this effect. Furthermore, we deepen our knowledge about the positive effect that organizational IS performance has on satisfaction with organizational IS. We argue and show that people high personal innovativeness react more sensitively with regards to the organizational IS performance. Therefore, personal innovativeness moderates the relationship between organizational IS performance and satisfaction with organizational IS.

5.1 Key Insights and Contribution

First, we quantitatively verify the negative relationship between satisfaction with organizational IS and the intention to use private IS for work, which qualitative and explorative studies in the consumerization and BYOD context have discussed thus far (Harris et al., 2012; Köffer et al., 2014; Ostermann & Wiewiorra, 2016).

Second, we separate the concepts organizational IS performance and personal IS performance and measure their different impacts on satisfaction with organizational IS. Research so far has used comparative concepts such as the relative advantage of private over organizational systems (Junglas et al., 2019; Moore & Benbasat, 1991; Polites & Karahanna, 2012). We found not only that organizational IS performance influences satisfaction with organizational IS but that the latter depends on private IS performance. As our study's major contribution, we found that inertia positively moderates the negative relationship between the private IS performance and satisfaction with organizational IS. Figure 3 shows that employees who show a higher inertia remain equally satisfied with their organizational IS even if they know about better alternatives from their private lives. This finding matches and supports defining inertia as "user attachment to, and persistence in, using an incumbent system (i.e., the status quo), even if there are better alternatives or incentives to change" (Polites & Karahanna, 2012, p.24).

Third and in line with the related post-adoption, consumerization, and BYOD literature, our results show that the organizational IS performance has a positive effect on satisfaction with organizational IS (Bhattacherjee, 2001; Bhattacherjee & Premkumar, 2004). Beyond that, we found that personal innovativeness with IT positively moderated this effect. As Figure 4 shows, more innovative employees demand more from organizational IS and become more quickly dissatisfied when organizational IS underperform. On the other hand, these employees become even more satisfied when organizational IS perform well. Overall, more innovative persons react more sensitively to organizational IS performance.

Using the cybernetic comparator and satisfaction's dynamics as core arguments, we hypothesize that inertia interacts only with the private IS performance while personal innovativeness with IT interacts only with the organizational IS performance. We confirmed these hypotheses in a post hoc test (see Table C3). Furthermore, we found support for the argument that private IS performance predicts intention to use private IS for work (Hopkins et al., 2013; Loose et al., 2013; Ortbach, 2015; Ortbach et al., 2013; Weeger et al., 2015). Also, we found that the organizational IS performance indirectly reduces intention to use private IS for work. Finally, we show that personal innovativeness with IT and inertia compete in their effects, which means that employees who are less innovative towards IT are more likely to develop inertia towards incumbent organizational IS. Nevertheless, high personal innovativeness with IT does not necessarily cause low inertia. For instance, in our data set, we found many participants with high personal innovativeness with IT who also had high inertia.

In summary, we found that employees who more active in changing their organizational environment become more quickly dissatisfied with organizational IS because: 1) they have high personal innovativeness with IT and, therefore, demand more from organizational IS and 2) private alternatives affect them more due to low inertia towards organizational IS.

5.2 Practical Implications

In line with Gregory et al. (2018), our findings suggest that IT governance in organizations should maintain a focus on technological developments and trends outside their organizations and particularly in the consumer market. When employees become familiar with superior IS in their private lives, their standards for comparable IS increase. As a consequence, their satisfaction with organizational IS decreases if their organization cannot keep up with the innovation occurring outside it—even when employees were initially satisfied with the IS when adopting it. The effect becomes even more pronounced for employees who have higher personal innovativeness with IT and lower inertia towards the incumbent system. As satisfaction constitutes a precondition for behavioral change, dissatisfied employees will possibly use alternative IS even without approval (shadow IT) and, thereby, threaten IT security (Silic & Back, 2014). Hence, organizations have to pay particular attention to innovations in the consumer market and variation in employees' satisfaction. To address these issues, organizations can allow employees to use private IS as long as it does not harm the organizations. They can also mimic consumer systems to provide employees with the standard they become accustomed to in their private lives.

5.3 Limitations and Future Research

This study has several limitations. First, we presented our participants with a hypothetical scenario while they reported their intention to use a private IS for work. The actual situation in participants' worklives might influence the reported intention. However, our study shows that the effect that the private IS performance's and organizational IS performance's effects remain the same as we controlled for the actual situation at work including a control variable (forbidden) into our research model. Second, we focus on a specific kind of system—an IS for sharing documents and files. Although we think that this system represents a suitable option for answering our research question as participants experience comparable situations and systems in both work and private life, future research could extend this study by investigating different systems or by differentiating between, for instance, physical and non-physical IT. Third, only employees who had experience with an alternative IS in their private lives participated in our study. Drawing on the cybernetic control loop, we propose that knowledge and familiarity with a superior system shift users/employees' reference value, which implies that employees who do not know any alternative IS would be even more satisfied with their organizational IS. Further studies could investigate whether this relationship is causal. Fourth, on the one hand, we theorize that a comparison between the private IS performance and organizational IS performance occurs. On the other hand, by using two separate constructs for the private IS performance and organizational IS performance, we cannot verify an actual comparison process. A challenge for subsequent studies will be, for one thing, to show the comparison and at the same time carve out the different effects of both performance perceptions on satisfaction with organizational IS and consumerization behavior. Fifth, some of our model fit values were close or even slightly above the common thresholds. Finally, we did not include the variable disturbance and the variable effect on the environment in our research model because we focused on and observed our results at a specific point in time. Future research could investigate these important aspects in the cybernetic control loop by applying appropriate research methods as part of longitudinal studies or natural experiments.

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Appendix A

Table A1. Measurement Items

	Perceived usefulness of organizational IS *Evaluation of the organizational system provided by your employer to share files/documents with your teammates.*	**References**
OP1	Using [org. IS] for work would enable me to accomplish tasks more quickly.	Davis (1989)
OP2	Using [org. IS] for work would improve my job performance.	
OP3	Using [org. IS] for work would increase my productivity.	
OP4	Using [org. IS] for work would enhance my effectiveness on the job.	
OP5	Using [org. IS] for work would make it easier to do my job.	
	Perceived usefulness of private IS *Evaluation of your private system you share files/documents with.*	
PP1	Using [priv. IS] for work would enable me to accomplish tasks more quickly.	
PP2	Using [priv. IS] for work would improve my job performance.	
PP3	Using [priv. IS] for work would increase my productivity.	
PP4	Using [priv. IS] for work would enhance my effectiveness on the job.	
PP5	Using [priv. IS] for work would make it easier to do my job.	
	Personal innovativeness with IT	Agarwal and Prasad (1998)
PI1	If I heard about a new information technology, I would look for ways to experiment with it.	
PI2	Among my peers, I am usually the first to try out new information technologies.	
PI3	I like to experiment with new information technologies.	
	Satisfaction with organizational IS *How do you evaluate your overall experience with the system your employer provides you to share files/documents with your teammates?*	Bhattacherjee (2001)
SAT1	Very dissatisfied … Very satisfied	
SAT2	Very displeased … Very pleased	
SAT3	Very frustrated … Very contented	
	Intention to use private IS *Please assume that your organizations' policy allows the use of private IS for work.*	Venkatesh et al. (2003)
INT1	I would intend to use [priv. IS] to share files with my teammates in the future.	
INT2	I predict I would use [priv. IS] to share files with my teammates in the future.	
INT3	I would plan to use [priv. IS] to share files with my teammates in the future.	
	Inertia (affective inertia) *Please assume that your organizations' policy allows the use of private IS for work.*	Polites and Karahanna (2012)
IA1	I would continue using [org. IS] for sharing files/ documents with my teammates, because it would be stressful to change.	
IA2	I would continue using [org. IS] for sharing files/ documents with my teammates, because I am comfortable doing so.	
IA3	I would continue using [org. IS] for sharing files/ documents with my teammates, because I enjoy doing so.	
	Inertia (behavioral inertia) *Please assume that your organizations' policy allows the use of private IS for work.*	
IB1	I would continue using [org. IS] for sharing files/ documents with my teammates, because it is what I have always done.	
IB2	I would continue using [org. IS] for sharing files/ documents with my teammates, because it is part of my normal routine.	
IB3	I would continue using [org. IS] for sharing files/ documents with my teammates, because I've done so regularly in the past.	
	Inertia (cognitive inertia) *Please assume that your organizations' policy allows the use of private IS for work.*	
IC1	I would continue using [org. IS] for sharing files/ documents with my teammates, even though I know it is not the best way of doing things.	
IC2	I would continue using [org. IS] for sharing files/ documents with my teammates, even though I know it is not the most efficient way of doing things	
IC3	I would continue using [org. IS] for sharing files/ documents with my teammates, even though I know it is not the most effective way to do things.	

Appendix B

Table B1. Cross Loadings

	OP	PP	PI	Sat	Int	IA	IB	IC
OP1	**0.889**	-0.042	0.031	0.450	-0.253	0.362	0.350	0.066
OP2	**0.913**	0.037	0.095	0.390	-0.180	0.310	0.337	0.172
OP3	**0.915**	0.070	0.108	0.362	-0.165	0.297	0.372	0.200
OP4	**0.908**	0.000	0.020	0.387	-0.178	0.270	0.320	0.116
OP5	**0.853**	-0.107	0.032	0.363	-0.308	0.246	0.371	0.074
PP1	0.037	**0.925**	0.209	-0.164	0.535	-0.284	-0.172	-0.078
PP2	-0.015	**0.936**	0.130	-0.242	0.512	-0.269	-0.142	-0.048
PP3	0.007	**0.938**	0.177	-0.244	0.597	-0.317	-0.221	-0.100
PP4	-0.027	**0.924**	0.169	-0.243	0.593	-0.282	-0.179	-0.095
PP5	-0.034	**0.929**	0.173	-0.271	0.558	-0.344	-0.208	-0.126
PI1	0.106	0.214	**0.898**	0.003	0.043	-0.153	-0.090	-0.110
PI2	0.005	0.190	**0.932**	-0.064	0.100	-0.231	-0.146	-0.233
PI3	0.100	0.078	**0.878**	-0.020	-0.007	-0.098	-0.111	-0.156
SAT1	0.340	-0.297	-0.023	**0.886**	-0.365	0.429	0.276	-0.030
SAT2	0.372	-0.227	-0.046	**0.873**	-0.309	0.370	0.358	-0.048
SAT3	0.436	-0.145	-0.032	**0.855**	-0.326	0.353	0.368	0.041
INT1	-0.246	0.578	0.062	-0.366	**0.992**	-0.337	-0.333	-0.091
INT2	-0.229	0.622	0.064	-0.390	**0.973**	-0.359	-0.335	-0.097
INT3	-0.243	0.578	0.054	-0.374	**0.990**	-0.346	-0.332	-0.087
IA1	0.040	-0.102	-0.240	0.078	-0.090	**0.700**	0.412	0.611
IA2	0.437	-0.396	-0.124	0.541	-0.440	**0.860**	0.666	0.253
IA3	0.326	-0.279	-0.101	0.439	-0.316	**0.853**	0.534	0.321
IB1	0.365	-0.195	-0.134	0.411	-0.317	0.641	**0.929**	0.415
IB2	0.395	-0.247	-0.140	0.353	-0.384	0.622	**0.924**	0.489
IB3	0.332	-0.119	-0.103	0.309	-0.247	0.611	**0.946**	0.506
IC1	0.131	-0.107	-0.198	0.007	-0.075	0.497	0.525	**0.964**
IC2	0.138	-0.095	-0.200	-0.015	-0.090	0.462	0.468	**0.976**
IC3	0.134	-0.083	-0.182	-0.032	-0.108	0.464	0.477	**0.977**

OP = organizational IS performance, PP = performance of private IS, PI = personal innovativeness with IT, Sat = satisfaction with organizational IS, Int = intention to use private IS for work. IA, IB, IC are lower-order constructs of the higher-order construct Inertia

Table B2. Indicator Correlation Matrix (Part1)

	OP1	OP2	OP3	OP4	OP5	IA1	IA2	IA3	IB1	IB2	IB3	IC1	IC2	IC3
OP1	**1.000**	0.743	0.763	0.747	0.684	0.044	0.455	0.369	0.364	0.340	0.278	0.075	0.062	0.056
OP2	0.743	**1.000**	0.846	0.804	0.701	0.053	0.367	0.325	0.322	0.341	0.281	0.172	0.163	0.166
OP3	0.763	0.846	**1.000**	0.781	0.720	0.072	0.374	0.266	0.313	0.385	0.342	0.176	0.207	0.202
OP4	0.747	0.804	0.781	**1.000**	0.739	0.038	0.354	0.256	0.294	0.322	0.280	0.105	0.120	0.114
OP5	0.684	0.701	0.720	0.739	**1.000**	-0.032	0.394	0.224	0.336	0.388	0.314	0.067	0.078	0.072
IA1	0.044	0.053	0.072	0.038	-0.032	**1.000**	0.351	0.349	0.364	0.372	0.417	0.623	0.580	0.578
IA2	0.455	0.367	0.374	0.354	0.394	0.351	**1.000**	0.714	0.642	0.649	0.575	0.251	0.246	0.240
IA3	0.369	0.325	0.266	0.256	0.224	0.349	0.714	**1.000**	0.539	0.475	0.482	0.333	0.295	0.309
IB1	0.364	0.322	0.313	0.294	0.336	0.364	0.642	0.539	**1.000**	0.773	0.833	0.455	0.371	0.382
IB2	0.340	0.341	0.385	0.322	0.388	0.372	0.649	0.475	0.773	**1.000**	0.812	0.499	0.460	0.468
IB3	0.278	0.281	0.342	0.280	0.314	0.417	0.575	0.482	0.833	0.812	**1.000**	0.515	0.477	0.483
IC1	0.075	0.172	0.176	0.105	0.067	0.623	0.251	0.333	0.455	0.499	0.515	**1.000**	0.903	0.905
IC2	0.062	0.163	0.207	0.120	0.078	0.580	0.246	0.295	0.371	0.460	0.477	0.903	**1.000**	0.947
IC3	0.056	0.166	0.202	0.114	0.072	0.578	0.240	0.309	0.382	0.468	0.483	0.905	0.947	**1.000**
INT1	-0.252	-0.180	-0.172	-0.179	-0.318	-0.086	-0.426	-0.296	-0.311	-0.379	-0.243	-0.066	-0.091	-0.110
INT2	-0.240	-0.174	-0.145	-0.178	-0.281	-0.094	-0.440	-0.327	-0.311	-0.387	-0.240	-0.087	-0.089	-0.107
INT3	-0.256	-0.179	-0.173	-0.169	-0.310	-0.086	-0.433	-0.309	-0.315	-0.368	-0.247	-0.067	-0.085	-0.103
PI1	0.080	0.153	0.132	0.045	0.067	-0.234	-0.097	-0.038	-0.101	-0.091	-0.061	-0.109	-0.103	-0.110
PI2	-0.013	0.034	0.060	-0.024	-0.032	-0.223	-0.159	-0.179	-0.140	-0.155	-0.113	-0.232	-0.234	-0.214
PI3	0.051	0.115	0.132	0.064	0.096	-0.196	-0.048	0.006	-0.110	-0.114	-0.089	-0.155	-0.165	-0.135
PP1	0.014	0.063	0.100	0.067	-0.077	-0.105	-0.345	-0.231	-0.169	-0.224	-0.090	-0.085	-0.080	-0.063
PP2	-0.029	0.043	0.064	-0.025	-0.118	-0.067	-0.352	-0.225	-0.157	-0.172	-0.070	-0.067	-0.036	-0.036
PP3	-0.050	0.057	0.101	0.005	-0.072	-0.075	-0.407	-0.278	-0.208	-0.258	-0.153	-0.107	-0.101	-0.085
PP4	-0.032	0.010	0.041	-0.001	-0.140	-0.053	-0.369	-0.255	-0.163	-0.246	-0.094	-0.099	-0.093	-0.086
PP5	-0.076	0.009	0.033	-0.022	-0.086	-0.168	-0.363	-0.297	-0.202	-0.243	-0.139	-0.134	-0.125	-0.109
SAT1	0.410	0.287	0.250	0.280	0.273	0.103	0.530	0.397	0.346	0.231	0.199	-0.010	-0.023	-0.054
SAT2	0.392	0.343	0.292	0.329	0.297	0.056	0.450	0.382	0.378	0.336	0.289	-0.015	-0.054	-0.072
SAT3	0.472	0.418	0.334	0.399	0.347	0.007	0.450	0.420	0.360	0.269	0.267	-0.012	-0.033	-0.055

Table B3. Indicator Correlation Matrix (Part2)

	INT1	INT2	INT3	PI1	PI2	PI3	PP1	PP2	PP3	PP4	PP5	SAT1	SAT2	SAT3
OP1	-0.252	-0.240	-0.256	0.080	-0.013	0.051	0.014	-0.029	-0.050	-0.032	-0.076	0.410	0.392	0.472
OP2	-0.180	-0.174	-0.179	0.153	0.034	0.115	0.063	0.043	0.057	0.010	0.009	0.287	0.343	0.418
OP3	-0.172	-0.145	-0.173	0.132	0.060	0.132	0.100	0.064	0.101	0.041	0.033	0.250	0.292	0.334
OP4	-0.179	-0.178	-0.169	0.045	-0.024	0.064	0.067	-0.025	0.005	-0.001	-0.022	0.280	0.329	0.399
OP5	-0.318	-0.281	-0.310	0.067	-0.032	0.096	-0.077	-0.118	-0.072	-0.140	-0.086	0.273	0.297	0.347
IA1	-0.086	-0.094	-0.086	-0.234	-0.223	-0.196	-0.105	-0.067	-0.075	-0.053	-0.168	0.103	0.056	0.007
IA2	-0.426	-0.440	-0.433	-0.097	-0.159	-0.048	-0.345	-0.352	-0.407	-0.369	-0.363	0.530	0.450	0.450
IA3	-0.296	-0.327	-0.309	-0.038	-0.179	0.006	-0.231	-0.225	-0.278	-0.255	-0.297	0.397	0.382	0.420
IB1	-0.311	-0.311	-0.315	-0.101	-0.140	-0.110	-0.169	-0.157	-0.208	-0.163	-0.202	0.346	0.378	0.360
IB2	-0.379	-0.387	-0.368	-0.091	-0.155	-0.114	-0.224	-0.172	-0.258	-0.246	-0.243	0.231	0.336	0.269
IB3	-0.243	-0.240	-0.247	-0.061	-0.113	-0.089	-0.090	-0.070	-0.153	-0.094	-0.139	0.199	0.289	0.267
IC1	-0.066	-0.087	-0.067	-0.109	-0.232	-0.155	-0.085	-0.067	-0.107	-0.099	-0.134	-0.010	-0.015	-0.012
IC2	-0.091	-0.089	-0.085	-0.103	-0.234	-0.165	-0.080	-0.036	-0.101	-0.093	-0.125	-0.023	-0.054	-0.033
IC3	-0.110	-0.107	-0.103	-0.110	-0.214	-0.135	-0.063	-0.036	-0.085	-0.086	-0.109	-0.054	-0.072	-0.055

INT1	**1.000**	0.938	0.994	0.045	0.103	-0.011	0.518	0.487	0.566	0.575	0.535	-0.353	-0.282	-0.260
INT2	0.938	**1.000**	0.933	0.043	0.098	0.005	0.545	0.536	0.621	0.609	0.573	-0.366	-0.339	-0.271
INT3	0.994	0.933	**1.000**	0.038	0.094	-0.016	0.514	0.487	0.575	0.566	0.540	-0.358	-0.289	-0.265
PI1	0.045	0.043	0.038	**1.000**	0.738	0.778	0.265	0.177	0.185	0.178	0.211	0.006	0.008	0.074
PI2	0.103	0.098	0.094	0.738	**1.000**	0.686	0.203	0.141	0.180	0.201	0.168	-0.055	-0.057	-0.004
PI3	-0.011	0.005	-0.016	0.778	0.686	**1.000**	0.099	0.026	0.107	0.050	0.089	0.012	-0.062	-0.023
PP1	0.518	0.545	0.514	0.265	0.203	0.099	**1.000**	0.824	0.827	0.840	0.861	-0.242	-0.123	-0.048
PP2	0.487	0.536	0.487	0.177	0.141	0.026	0.824	**1.000**	0.863	0.837	0.823	-0.283	-0.210	-0.100
PP3	0.566	0.621	0.575	0.185	0.180	0.107	0.827	0.863	**1.000**	0.831	0.830	-0.272	-0.249	-0.130
PP4	0.575	0.609	0.566	0.178	0.201	0.050	0.840	0.837	0.831	**1.000**	0.791	-0.280	-0.218	-0.128
PP5	0.535	0.573	0.540	0.211	0.168	0.089	0.861	0.823	0.830	0.791	**1.000**	-0.292	-0.225	-0.119
SAT1	-0.353	-0.366	-0.358	0.006	-0.055	0.012	-0.242	-0.283	-0.272	-0.280	-0.292	**1.000**	0.684	0.720
SAT2	-0.282	-0.339	-0.289	0.008	-0.057	-0.062	-0.123	-0.210	-0.249	-0.218	-0.225	0.684	**1.000**	0.701
SAT3	-0.260	-0.271	-0.265	0.074	-0.004	-0.023	-0.048	-0.100	-0.130	-0.128	-0.119	0.720	0.701	**1.000**

Table B4. Construct Correlation Matrix

	OP	PP	PI	Inertia	PI x OP	Inertia x PP	Sat	Int	Senio-rity	Age	For-bidden	Income	Gender
OP	**1.000**	-0.010	0.063	0.346 ***	0.156 *	0.004	0.439 ***	-0.243 **	0.094	0.007	-0.027	-0.063	0.023
PP	-0.010	**1.000**	0.182 *	-0.240 **	-0.016	-0.035	-0.256 **	0.603 ***	0.012	0.009	-0.116	0.027	-0.029
PI	0.063	0.182 *	**1.000**	-0.205 **	-0.035	-0.036	-0.038	0.061	-0.117	-0.028	0.221 **	0.157 *	-0.284***
Inertia	0.346 ***	-0.240 **	-0.205 **	**1.000**	-0.038	0.142	0.317 ***	-0.310***	-0.008	-0.052	-0.026	-0.073	0.195 *
PI x OP	0.156 *	-0.016	-0.035	-0.038	**1.000**	0.064	0.296 ***	-0.064	0.025	0.062	-0.109	0.091	0.037
Inertia x PP	0.004	-0.035	-0.036	0.142	0.064	**1.000**	0.258 ***	-0.176 *	-0.092	-0.102	-0.034	0.039	-0.019
Sat	0.439 ***	-0.256 **	-0.038	0.317 ***	0.296 ***	0.258 ***	**1.000**	-0.383***	-0.024	-0.033	-0.122	-0.022	0.154
Int	-0.243 **	0.603 ***	0.061	-0.310***	-0.064	-0.176 *	-0.383***	**1.000**	0.096	0.089	-0.042	0.137	0.000
Seniority	0.094	0.012	-0.117	-0.008	0.025	-0.092	-0.024	0.096	**1.000**	0.552 ***	0.001	0.289 ***	0.011
Age	0.007	0.009	-0.028	-0.052	0.062	-0.102	-0.033	0.089	0.552 ***	**1.000**	0.093	0.455 ***	-0.072
Forbidden	-0.027	-0.116	0.221 **	-0.026	-0.109	-0.034	-0.122	-0.042	0.001	0.093	**1.000**	0.117	-0.259***
Income	-0.063	0.027	0.157 *	-0.073	0.091	0.039	-0.022	0.137	0.289 ***	0.455 ***	0.117	**1.000**	-0.152*
Gender	0.023	-0.029	-0.284***	0.195 *	0.037	-0.019	0.154	0.000	0.011	-0.072	-0.259***	-0.152 *	**1.000**

* p < 0.05, ** p < 0.01, *** p < 0.001. OP = organizational IS performance, PP = private IS performance, PI = personal innovativeness with IT, Sat = satisfaction with organizational IS, Int = intention to use private IS for work.

Appendix C

Table C1. Variance Inflation Factors

	Dependent variables		
Independent variables	**Inertia**	**Sat**	**Int**
OP		1.251	
PP		1.119	
PI	1.210	1.272	
IA	2.038		
IB	2.007		
IC	1.480		
Inertia		1.352	
Inertia x PP		1.056	
PI x OP		1.077	
Sat			1.033
Seniority	1.501	1.506	1.452
Age	1.711	1.699	1.675
Forbidden	1.123	1.157	1.094
Income	1.339	1.369	1.293
Gender	1.183	1.183	1.105

OP = organizational IS performance, PP = private IS performance, PI = personal innovativeness with IT, IA = affective inertia, IB = behavioral inertia, IC = cognitive inertia; Sat = satisfaction with organizational IS.

Table C2. Alternative Model 1

	Dependent variables					
Independent variables	**Inertia**		**Sat**		**Int**	
OP			**0.362*** **	**(<0.001)**	-0.139	(0.073)
PP			**-0.232****	**(0.001)**	0.536***	(<0.001)
Inertia			0.106	(0.150)	-0.090	(0.182)
PI	**-0.172***	**(0.03)**	0.065	(0.320)		
Inertia x PP			**0.219****	**(0.007)**		
PI x OP			**0.206****	**(0.003)**		
Sat					**-0.165***	**0.032**
Controls						
Income	-0.008	(0.926)	0.008	(0.922)	0.095	(0.132)
Forbidden	0.058	(0.448)	-0.095	(0.169)	0.003	(0.964)
Seniority	0.000	(0.996)	-0.049	(0.571)	0.072	(0.234)
Age	-0.048	(0.652)	0.024	(0.783)	-0.004	(0.948)
Gender	0.157*	(0.047)	0.112	(0.089)	0.075	(0.218)
Predictive accuracy and relevance						
R^2	0.068		0.398		0.468	
R^2 adjusted	0.033		0.355		0.438	
Q^2	0.013		0.276		0.403	

P values of t statistics in parentheses; * p < 0.05, ** p < 0.01, *** p < 0.001. The main hypotheses have a grey background. OP = organizational IS performance, PP = private IS performance, PI = personal innovativeness with IT; Sat = satisfaction with organizational IS.

Table C3. Alternative Model 2

	Dependent variables					
Independent variables	**Inertia**		**Sat**		**Int**	
OP			**0.349*** **	**(<0.001)**		
PP			**-0.234** **	**(0.001)**		
Inertia			0.104	(0.162)		
PI	**-0.174***	**0.031**	0.064	(0.327)		
Inertia x PP			**0.204***	**(0.018)**		
Inertia x OP			-0.043	(0.607)		
PI x OP			**0.204** **	**(0.003)**		
PI x PP			-0.034	(0.576)		
Sat					**-0.399*** **	**(<0.001)**
Controls						
Income	-0.007	(0.933)	0.010	(0.904)	0.133	(0.143)
Forbidden	0.058	(0.449)	-0.096	(0.166)	-0.091	(0.219)
Seniority	-0.002	(0.980)	-0.050	(0.577)	0.047	(0.583)
Age	-0.046	(0.659)	0.020	(0.815)	0.002	(0.981)
Gender	0.156*	(0.046)	0.115	(0.087)	0.058	(0.446)
Predictive accuracy and relevance						
R^2	0.069		0.401		0.179	
R^2 adjusted	0.033		0.350		0.149	
Q^2	0.013		0.257		0.136	

P values of t statistics in parentheses; * p < 0.05, ** p < 0.01, *** p < 0.001. The main hypotheses have a grey background. OP = organizational IS performance, PP = private IS performance, PI = Personal innovativeness with IT; Sat = Satisfaction with organizational IS

Table C4. Alternative Model 3

	Dependent variables					
Independent variables	**Inertia**		**Sat**		**Int**	
OP			**0.348*** **	**(<0.001)**	-0.139	(0.069)
PP			**-0.230** **	**(0.001)**	0.536 ***	(<0.001)
Inertia			0.108	(0.150)	-0.090	(0.179)
PI	**-0.172***	**0.034**	0.065	(0.318)		
Inertia x PP			**0.204***	**(0.020)**		
Inertia x OP			-0.045	(0.590)		
PI x OP			**0.203** **	**(0.003)**		
PI x PP			-0.034	(0.588)		
Sat					**-0.165***	**0.030**
Controls						
Income	-0.008	0.924	0.010	(0.908)	0.095	(0.138)
Forbidden	0.058	0.457	-0.098	(0.164)	0.003	(0.964)
Seniority	0.000	0.996	-0.050	(0.579)	0.072	(0.221)
Age	-0.048	0.656	0.021	(0.810)	-0.004	(0.947)
Gender	0.157	0.051	0.114	(0.094)	0.075	(0.221)
Predictive accuracy and relevance						
R^2	0.068		0.401		0.468	
R^2 adjusted	0.033		0.350		0.438	
Q^2	0.013		0.257		0.403	

P values of t statistics in parentheses; * p < 0.05, ** p < 0.01, *** p < 0.001. The main hypotheses have a grey background. OP = organizational IS performance, PP = private IS performance, PI = personal innovativeness with IT, Sat = satisfaction with organizational IS.

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