How does the acceptance of working with a new technology relate to techno strain and techno engagement?

A study among managers of a Dutch supermarket chain.

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Abstract

New technologies are continuously introduced at companies. However, companies seem to invest mainly in the technology itself instead of in the human side of technology. Therefore, the present study focused on the motivation and ability of employees to cope with a new technology at work. The general aim of this cross-sectional study was to examine whether the acceptance of a new technology was related to techno strain and techno engagement. More specifically, the role of perceived usefulness, perceived ease of use and self-efficacy were examined as predictors of acceptance. Data were collected with an online questionnaire among managers of a Dutch supermarket chain (N = 270), who make use of a new technology, called MyHR. The results of linear regression and mediation analyses showed, as hypothesized, that technology acceptance was negatively related to techno strain and positively related to techno engagement. Technology acceptance functioned as mediator in the negative relationship between perceived usefulness or perceived ease of use and techno strain, but also in the positive relationship between perceived usefulness or perceived ease of use and techno engagement. Moreover, perceived usefulness and perceived ease of use mediated the positive effect between computer self-efficacy and technology acceptance. These findings emphasized the importance of focussing on the usefulness, ease of use and acceptance of a new technology to reduce techno strain and to promote employee (techno)engagement. Theoretical and practical implications were discussed.

Keywords: technostress, techno strain, techno engagement, technology acceptance, TAM, perceived usefulness, perceived ease of use, computer self-efficacy.

Introduction

Nowadays, technologies are indispensable in the workplace. As a result, employees are forced to learn to work with (new) technologies, which requires new skills from employees. However, Dutch companies seem to invest mainly in the technological innovation itself instead of in the human side of technological innovations, the so-called social innovations (Erasmus University Rotterdam, 2017). Therefore, the present study will focus on the human side of how employees deal with new technologies.

When employees are forced to work with new technologies, stress might occur (Salanova, Llorens & Cifre, 2013). Stress related to the use of technologies, also known as technostress, is generally defined as the mental strain that employees experience as a result of working with (new) technologies (Weil & Rosen, 1997). Although the negative effects of working with (new) technologies have been demonstrated quite frequently (Ragu-Nathan, Tarafdar, Ragu-Nathan & Tu, 2008; Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan, 2011; Salanova et al., 2013) technology can be considered as a double-edged sword as it also has multiple advantages. For example, technology can have a positive effect on indicators of employee work performance such as increased productivity (Beer, 2016) and work efficiency (Chesley, 2010; O'Driscoll, Brough, Timms & Sawang, 2010). However, the extent to which working with new technologies can also have a positive impact on the motivation of employees is still unknown and deserves more attention.

To date, most research in the area of technology and work has been done into the antecedents of technostress (Ragu-Nathan et al., 2008; Day, Scott & Kelloway, 2010; Ayyagari, Grover & Purvis, 2011; Tarafdar et al., 2011; Day, Paquet, Scott & Hambley, 2012; Salanova et al., 2013). However, little research has examined to what extent the acceptance of working with new technologies is related to both negative and positive consequences of technologies. Since earlier research has found that more than 50% of the companies face resistance from employees towards introducing new technologies (Venkatesh, Morris, Davis & Davis, 2003), it seems crucial to pay attention to the acceptance of new technologies. A leading model in this area is the 'Technology Acceptance Model' (TAM) (Davis, 1989). This model tries to explain the relationship between the antecedents of technology acceptance, the attitudes towards using technologies and the actual user's behaviour. In line with most research into the acceptance of technologies, the current study also builds on the TAM.

In addition to attitudinal factors, various other factors may also play a role in the experience of technostress. An important factor in this respect is self-efficacy. From previous

research we know that individuals with higher perceived computer self-efficacy tend to have lower levels of technostress (Johnson & Marakas, 2000; Thatcher & Perrewe, 2002; Shu, Tu & Wang, 2011), and because personal factors (like self-efficacy) may influence the attitude about working with technology (Straub, 2009), the present study will also focus on the specific role of self-efficacy in relation to working with new technologies.

In sum, the purpose of this study is to examine to what extent the acceptance of a new technology and computer self-efficacy are related to the negative (technostress) or positive (techno engagement) consequences of using technologies in the workplace. In addition, this study examines the role of perceived usefulness, perceived ease of use and technology acceptance as mediators (see Figure 1). This study aims to contribute to the literature in the following ways. First, while most of the research only focuses on the negative consequences of working with new technologies, such as technostress, this study also focuses on possible positive consequences of the use of technologies, namely techno engagement. To our knowledge, so far, no research has been done into techno engagement and its facilitators. Secondly, this study pays attention to the 'Technology Acceptance Model', a model that has not been studied often in the Occupational Health literature. The TAM seems important for examining the relation between technology and well-being. Finally, the current study focuses on the usage of a new ICT-program, called MyHR, among managers, assistant-managers and team leaders of a Dutch supermarket chain and assesses to what extent they accept MyHR and how this affects their level of technology related stress and engagement. As far as we know, research into the antecedents of technology usage in this sector is new and can contribute to research into technostress in specific environments (Wang, Shu & Tu, 2008). The insights of this study may benefit HR-professionals to find out which factors are important for implementing and accepting new technologies.

Theoretical background

Technostress: clarifying the concept

The concept of technostress derives from the Transaction Theory of Stress (Lazarus, 1966). This theory describes that first there is stimulus or stressor. The individual evaluation of this stressor, so-called appraisal, determines a response or reaction (strain). The first definition of technostress, based on this theory, came from Brod (1984). He defined technostress as "a modern disease of adaptation caused by inability to cope with the new technologies in a healthy manner" (p.16). A more complete definition came from Weil &

Rosen (1977) who defined technostress as negative influence on attitudes, behaviour or body caused by using technology. In these definitions are the demands of working with the (new) technologies the stressors and are “a modern disease of adaption” and “negative impact on attitudes, behaviours or body” the reactions. To avoid confusion between stressor and strain, from now on, we will use the term techno strain to make clear that it is about the responses and reactions to working with new technologies. Over the years, techno strain is defined in various ways by different researchers (Ragu-Nathan et al., 2008; Wang et al., 2008) and it includes various psychosocial reactions, for instance, frustrations and feelings of lack of self-efficacy (O’Driscoll et al., 2010). Salanova et al. (2013) define techno strain in terms of anxiety, mental exhaustion, scepticism and ineffectiveness, caused by the inability to cope with technologies.

Working with new technologies can pose many demands on the users. Research into these so-called technostressors, shows that there are many aspects that may cause techno strain. Day et al. (2010, 2012) demonstrated eight ICT demands that are associated with increased strain. For example, control over technology and workload. When people feel a lack of control or authority to make decisions over technologies, they may experience increased strain. Frequent use of technologies could increase the workload and strain. In another study, stressors such as, techno-overload, techno-complexity, techno-insecurity, techno-uncertainty and techno-invasion have been found to cause techno strain in the workplace (Ragu-Nathan et al., 2008). Yet another study investigated the effect of technostressors on the performance of institutional sales professionals. Results showed a negative relationship between technostressors such as usefulness, reliability and anonymity and strain (Tarafdar, Pullins & Ragu-Nathan, 2015). Moreover, research indicated that employees who are uncertain about one’s ability to work effectively with the new technology are associated with higher levels of techno strain (O’Driscoll et al., 2010; Shu et al., 2011). Taken together, these studies have all showed that working with technology can lead to the perception of additional demands which may cause feelings of techno strain.

Techno engagement

In addition to the negative consequences, the use of new technologies in the workplace can also have positive consequences, such as increased worker’s accessibility (Morgan, Morgan & Hall, 2000) and expected productivity (Beer, 2016). The Transactional Model of Stress (Lazarus & Folkman, 1984) emphasizes that not everyone will react in a similar way to the same stressors. Not all employees consider working with new technologies demanding or stressful. Some employees will consider new technologies more as a resource that motivates

them and by which they become more engaged in their work (Day et al., 2010). Research into demands and resources builds on the Job Demands-Resource Model (JD-R model) (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). This model describes amongst others how job resources are positively related to engagement and how job demands positively related to burnout (Bakker & Demerouti, 2007). Work engagement is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). Vigor is about having energy, perseverance and mental resilience while working and the willingness to make effort for your work. Dedication refers to being strongly involved and experience feelings of pride, challenge, enthusiasm and significance. Lastly, absorption refers to complete concentration and the ability to be immersed in your work, where loosening work is difficult and time quickly passes by (Schaufeli, 2013).

Up till now, no research has been done into the extent to which working with new technologies has a positive impact on employee's motivation or (work)engagement. Only O'Driscoll et al. (2010) discussed some key facilitators and barriers associated with engagement with ICT. They mention as key facilitators of engagement self-efficacy, mastery and personal innovativeness. Thereby, they see the complexity of the technology, the difficulty to use the technology and the involuntary imposition of ICT as the most important barriers to engagement. Taken together, up till now there is no empirical evidence that working with technology can have positive effects on the motivation of employees which may cause feelings of technological (work)engagement. In the present study we will take this challenge and examine also the role of the aforementioned facilitator 'self-efficacy' and barrier 'difficulty to use the technology' in this respect.

Technological acceptance

Most research on the acceptance of technologies builds on the 'Technology Acceptance Model' (TAM) (Davis, 1989). The TAM is derived from the Theory of Reasoned Action (Fishbein & Ajzen, 1977) and Theory of Planned Behavior (Ajzen, 1991). The Theory of Reasoned Action suggests that attitudes towards an activity influence one's intentions, which in turn influence one's behaviour. The Theory of Planned Behavior builds on the Theory of Reasoned Action and suggests that one's intentions are not only influenced by one's attitudes towards the activity, but also by perceived behavioural control and subjective norms. Together they shape the intentions and behaviour of individuals. The TAM states that perceived usefulness and perceived ease of use predict the acceptance of technology. Perceived usefulness is "the degree to which a person believes that using a particular system

would enhance his or her job performance" and perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). If the technology is perceived as useful and easy to use, the technology is more likely to be accepted by users.

As mentioned before, research indicated a negative relationship between the stressor usefulness and strain (Tarafdar et al., 2015). If a technology is perceived as useful, feelings of strain will probably decrease. Perceived ease of use can be associated with techno-complexity, one of the predictors of techno strain, like mentioned before (Ragu-Nathan et al., 2008). The more a technology is perceived as complex – low level of perceived ease of use – the more feelings of techno strain. As previously mentioned, difficulty to use technologies is seen as a barrier to technological engagement (O'Driscoll et al., 2010). With the previous knowledge, the following hypotheses will be tested:

H1a: Technology acceptance is negatively related to techno strain.
H1b: Technology acceptance is positively related to techno engagement.

Various studies used the TAM to examine if perceived usefulness and perceived ease of use are predictors of technology acceptance. Most studies confirmed these hypotheses (Davis, 1989; Malhotra & Galletta, 1999; Moon & Kim, 2001). In fact, a meta-analysis of 26 empirical studies focusing on the TAM showed a strong relationship between perceived usefulness and technology acceptance (Ma & Liu, 2004). However, the relationship between perceived ease of use and technology acceptance was weaker. Based on the research findings mentioned above, the following hypotheses will be tested:

H2a: Perceived usefulness is positively related to technology acceptance.
H2b: Perceived ease of use is positively related to technology acceptance.

Self-efficacy

Critics have mentioned that the TAM often ignores personal factors (Fu, Farn & Chao, 2006). Recent research focused the most on external variables that influence perceived usefulness and perceived ease of use such as social support (Venkatesh, Thong, & Xu, 2012). Supportive of this line of reasoning, the current study focuses on one personal factor that might influence perceived usefulness and perceived ease of use. One of the most investigated personal factors in studies on TAM and techno strain is self-efficacy. Self-efficacy can be

defined as the belief of one's ability to perform certain tasks and behaviour (Bandura, 1977). The 'Social Cognitive Theory' (SCT) (Bandura, 1982) indicates that individuals' beliefs about how well they can perform certain tasks and behaviour shape their attitudes. In the context of technologies, computer self-efficacy is the belief of someone that he or she can complete specifics tasks and deal with problems while using the technology (Compeau & Higgins, 1995). Studies have found that computer self-efficacy is negatively related to techno strain (Johnson & Marakas, 2000; Thatcher & Perrewe, 2002; Shu et al., 2011). More studies showed similar results, for example the study of Czaja et al. (2006), which indicated that higher levels of computer self-efficacy are related with lower levels of computer anxiety. Thereby, a lack of self-efficacy can cause disengagement of work (Cherniss, 2017). Conversely, high computer self-efficacy is associated with positive attitudes towards computers (Venkatesh & Davis, 1996). Computer self-efficacy can help employees to overcome the barrier of technology's complexity (Shu et al., 2011). Other research proposed that higher computer self-efficacy ensures that people would rather engage with new ICT-programs (Downey & McMurtrey, 2007). Venkatesh (2000) suggested that self-efficacy serves as anchor that individuals use when forming perceived ease of use about a new technology. Compeau, Higgins & Huff (1999) indicated that the judgments of individuals about their capability for completing tasks while using the technology have been linked to usage, computer attitudes and computer anxiety. Based on the research findings mentioned above, the following hypotheses can be formulated:

H3a: Computer self-efficacy is positively related to perceived ease of use.
H3b: Computer self-efficacy is positively related to perceived usefulness.

Mediation effects

In sum, studies stated that perceived usefulness and perceived ease of use are related to techno strain (Ragu-Nathan, et al., 2008; Tarafdar et al., 2015) and linked to engagement (O'Driscoll et al., 2010). In addition, various studies showed that perceived usefulness and perceived ease are predictors of technology acceptance (Davis, 1989; Malhotra & Galletta, 1999; Moon & Kim, 2001). Following these findings, it seems interesting to investigate if there is an indirect effect between perceived usefulness and perceived ease of use and well-being via technology acceptance. Therefore, the following hypotheses with technology acceptance as mediator will be examined:

H4a: Technology acceptance mediates the relationship between perceived usefulness and techno strain

H4b: Technology acceptance mediates the relationship between perceived ease of use and techno strain.

H4c: Technology acceptance mediates the relationship between perceived usefulness and techno engagement.

H4d: Technology acceptance mediates the relationship between perceived ease of use and techno engagement.

In short, the 'Social Cognitive Theory' (Bandura, 1982) indicates that individuals' beliefs about how well they can perform certain tasks and behaviour (self-efficacy) shape their attitudes. In addition, computer self-efficacy is associated with positive attitudes towards computers (Venkatesh & Davis, 1996). In this study the attitudes, acceptance of technologies, are central. It is known that perceived usefulness and perceived ease are predictors of technology acceptance (Davis, 1989; Malhotra & Galletta, 1999; Moon & Kim, 2001). Following these findings, it seems interesting to investigate if there is also an indirect effect between self-efficacy and technology acceptance via perceived usefulness and perceived ease of use. The following hypotheses will be tested:

H5a: Perceived usefulness mediates the relationship between computer self-efficacy and technology acceptance.

H5b: Perceived ease of use mediates the relationship between computer self-efficacy and technology acceptance.

Control variables

Besides computer self-efficacy, literature frequently refers to age as individual characteristic that may influence the attitude towards technology (Straub, 2009). Czaja et al. (2006) indicated that the older an employee is, the more they experience feelings of anxiety. In addition, work engagement seems to be higher among older people (Park & Gursoy, 2012). In addition to age, Salanova et al. (2013), mention intensive use of ICT as a reason for techno strain. On the other hand, some employees will consider the technology as a resource (Day et al., 2010). In this reasoning, intensive use of a new technology may motivate people which may lead to earlier acceptance of the technology and becoming more engaged in their work. Since these individual differences are probably related to techno strain, techno engagement

and technology acceptance, we will control in the analyses for the effect of age and hours working with the new technology.

Research model

Taken together, Figure 1 summarizes all the expected relationships of the current study.

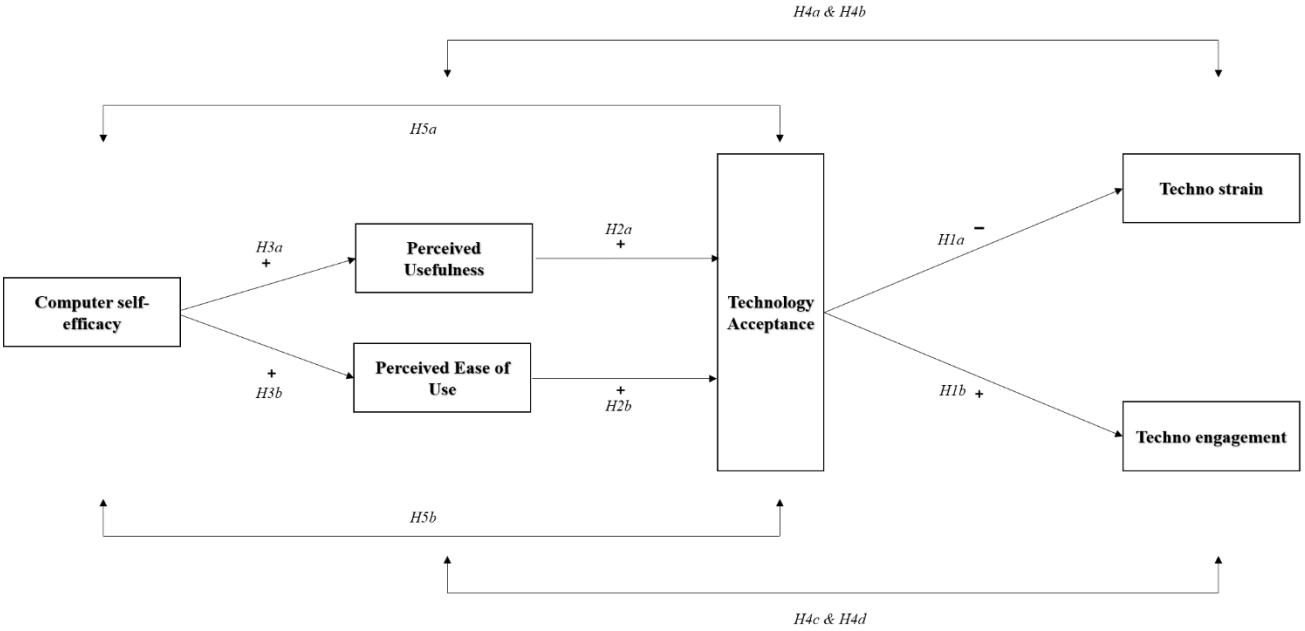

Figure 1. Research framework and hypotheses.

Method

Procedure

The data were collected during a period of four weeks. On April 17, 2019, an e-mail was sent to all managers, assistant-managers and team leaders of a Dutch supermarket chain. In this e-mail they were asked to participate in this study on the usage of MyHR, a new application to execute HR processes (MyHR, 2018, December 28). The e-mail also contained a link to the online Dutch questionnaire via Qualtrics. All participants had to give their informed consent prior to the research and filling out the complete questionnaire took approximately ten minutes. The participants participated on a voluntary basis and were not rewarded afterwards. After two weeks, a reminder was sent.

Participants

For this study, a total of 433 participants started to fill out the questionnaire. However, 163 participants dropped out during the questionnaire or didn't fill out the questionnaire

completely. In sum, 270 participants (62.4% of all the registered people) responded in such a way that their response was suitable for analysis. A total of 132 men (48.9%) and 138 women (51.1%) completed the questionnaire. The age of participants varied from 18 to 62 years (M = 35.53 SD = 12.97). Most of the participants (64.1%, N = 173) were highly educated and completed their higher vocational education (49.3%) or university degree (14.8%). With regard to job position, 121 team leaders (44.8%), 82 supermarket managers (30.4%) and 67 assistant supermarket managers (24.8%) completed the questionnaire. The working hours per week varied from 7 to 40 hours (M = 31.84 SD = 10.60). The time they work with the new technology MyHR varied from 0.05 to 10 hours per week (M = 1.35 SD = 1.18).

Measures

The questionnaire included different constructs (see Appendix 1). Before the constructs were measured, participants had to fill in some general questions about themselves, including age, gender, educational level and job position. The general questions were followed by three short questions on the use of MyHR.

Techno strain. Techno strain was measured by using a part of the Resources-Experience-Demands (RED) Questionnaire – Technostress (Llorens, Salanova & Ventura, 2011). The questionnaire consisted of 16 items and comprised four dimensions with each four items: skepticism, fatigue, anxiety and ineffectiveness. The fifth dimension (addiction) of the RED Questionnaire was not used. An example of an item is: ‘I doubt the significance of working with MyHR’. All items were adjusted to MyHR and a Dutch translation was made. The items of skepticism were measured on a 7-point Likert scale that ranged from ‘Totally disagree’ (0) to ‘Totally agree’ (6). The rest of the items were measured on a 7-point Likert scale that ranged from ‘Never’ (0) to ‘Always’ (6). The reliability of the total techno strain scale was $\alpha = .85$. For the sake of clarity, we analysed techno strain as one concept in the current study.

Techno engagement. Techno engagement was measured by using the short version of the Utrecht Work Engagement Scale (UWES-9) (Schaufeli, Bakker & Salanova, 2006) with nine items, reflecting the three dimensions with each three items (vigor, dedication & absorption). The Dutch version of the UWES-9 (UBES) was used and the items were again adapted to MyHR. An example of an item is: ‘Working with MyHR inspires me’ All items were measured on a 7-point Likert scale that ranged from ‘Never’ (0) to ‘Always’ (6). In the present study the total scale for engagement was used for analyses. The reliability of this total scale was $\alpha = .93$.

Technology acceptance. Technology acceptance was measured by using the four items of Hu, Chau, Sheng & Tam (1999). Obviously, the items were translated into Dutch and adapted to MyHR. 'Using MyHR is a good idea' is an example of an item. The scale had a reliability of $\alpha = .91$.

Perceived usefulness. Perceived usefulness was measured by using the items from Venkatesh & Davis (2000). These items were adapted from Davis (1989). All items were translated into Dutch and adapted to MyHR. Perceived usefulness existed of four items, with a reliability of the scale of $\alpha = .90$. 'Using MyHR improves my performance' is an example of an item.

Perceived ease of use. Perceived ease of use was also measured by using the items from Venkatesh & Davis (2000). The four items were again translated into Dutch and adapted to MyHR. An example of an item of perceived ease of use is: 'I find MyHR easy to use'. The scale had a reliability of $\alpha = .88$

Computer self-efficacy. Computer self-efficacy was measured by using the Computer Self-Efficacy Measure (Compeau & Higgins, 1995). The questionnaire consisted of 10 items. A Dutch translation was made. An example of an item is: 'I could complete the job using the software package.. ..if I had only the software manuals for reference'. The items were measured on 5-point Likert scale that ranged from 'Not at all confident' (0) tot 'Totally confident' (4). The reliability of the computer self-efficacy scale was $\alpha = .90$.

Design & analysis

The design of the study was cross-sectional. The analyses were conducted with the IBM Statistical Program Social Sciences (SPSS) version 24.0. First, assumptions regarding linearity, normality, homoscedasticity, multicollinearity and outliers were checked. Secondly, bivariate correlation analyses were made. Thirdly, linear regression analyses using bootstrapping (5000 samples) were used to test hypothesis 1a to 3b. Lastly, mediation analyses were conducted by using the PROCESS macro version 3.3 (Hayes, 2013), based on 5000 bootstrapped samples to test the hypotheses 4a to 5b. To perform these mediation analyses, the research framework (Figure 1) was divided into three parts. Model 4 of the PROCESS macro was used for all analyses. Figure 2 and 3 illustrate the different paths for mediation. The indirect paths (ab) were assessed as significant when the 95% bootstrap confidence intervals (CI) did not include zero.

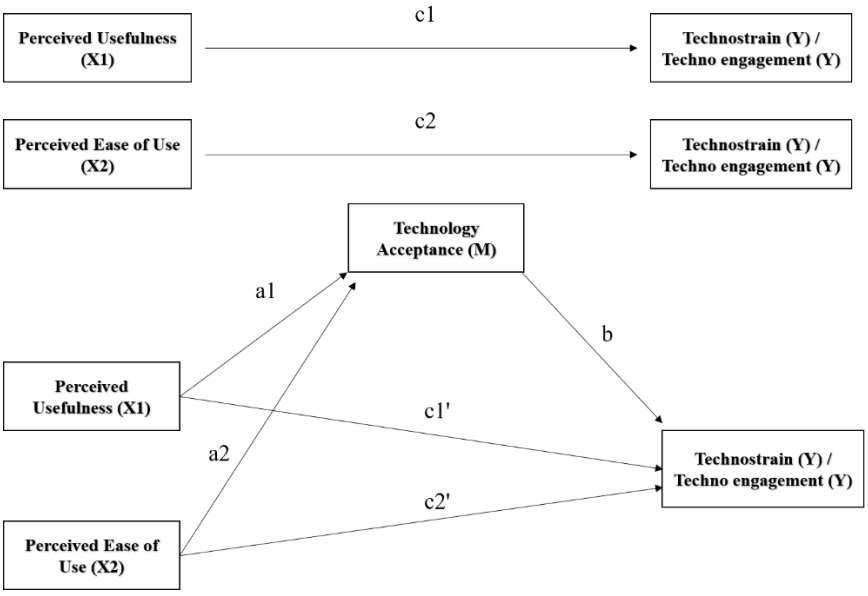

Figure 2. Independent variable (X), dependent variable (Y), mediator (M), total effect (c), indirect effect (ab) and direct effect (c').

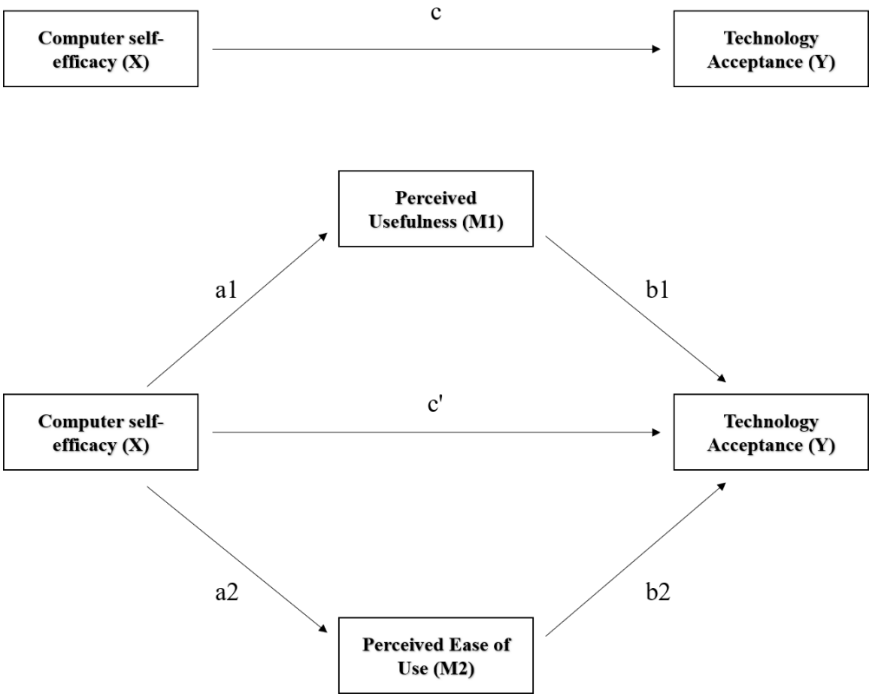

Figure 3. Independent variable (X), dependent variable (Y), mediator (M), total effect (c), indirect effect (ab) and direct effect (c').

Results

Descriptives

The means, standard deviations and correlations of all variables are reported in Table 1. Remarkable are the relatively low mean and equally low standard deviation of techno strain (M = .57 SD = .57). In addition, the control variables age and hours working with MyHR did not correlate significantly with the other variables, except age in relation with techno strain. Noteworthy, the correlation between age and technostrain was not in the expected direction. However, the control variables are included in the analyses, but for the sake of clarity, the results are not reported. Furthermore, Table 1 shows that all correlations were in the expected direction.

Table 1

Descriptives (M, SD) and correlations between the variables (N = 270)

	M	*SD*	1	2	3	4	5	6	7	8
1. Techno strain	.57	.57	-	-.30**	-.61**	-.54**	-.63**	-.20**	-.19**	-.01
2. Techno engagement	3.01	1.38		-	.50**	.46**	.31**	.16**	-.03	.11
3. Technology acceptance	4.29	1.26			-	.71**	.66**	.22**	.04	.02
4. Perceived usefulness	4.09	1.39				-	.60**	.20**	-.09	.04
5. Perceived ease of use	4.43	1.26					-	.33**	.01	.00
6. Computer self-efficacy	3.04	.53						-	-.11	-.04
7. Age	35.53	12.97							-	.07
8. Hours working with MyHR	1.35	1.18								-

*Note. ** p < .01, 2-tailed.*

Technology acceptance, techno strain and techno engagement

In hypotheses 1a and 1b it was expected that technology acceptance would be negatively related to techno strain and positively related to techno engagement. Linear regression analysis using bootstrapping showed that technology acceptance was negatively related to techno strain, R^2 = 0.39, F(3, 266) = 57.86, p <.01, β = -.60, SE = 0.02, 95% CI [-0.31, -0.23]. This means that the more an employee accepts a technology, the less an employee experiences techno strain. Technology acceptance was positively related to techno

engagement, $R^2 = 0.27$, $F(3, 266) = 32.21$, $p < .01$, $\beta = .50$ $SE = 0.06$, 95% CI [0.44, 0.67], which suggested that the more an employee accepts a technology, the more an employee feels technological engaged. These results support hypothesis 1a and 1b.

Perceived usefulness, perceived ease of use and technology acceptance

Linear regression analyses using bootstrapping were conducted to test hypothesis 2a and 2b. Hypothesis 2a predicted that perceived usefulness would be positively related to technology acceptance, $R^2 = 0.51$, $F(3, 266) = 93.44$, $p < .01$, $\beta = .72$ $SE = 0.04$, 95% CI [0.57, 0.72]. Hypothesis 2b predicted that perceived ease of use would be positively related to technology acceptance, $R^2 = 0.44$, $F(3, 266) = 70.81$, $p < .01$, $\beta = .66$, $SE = 0.05$, 95% CI [0.57, 0.75]. These results support hypotheses 2a and 2b, which indicates that the more employees perceive MyHR as useful and easy to use, the more an employee accepts the technology. Linear regression was also conducted to test which of the two factors is a more important predictor of technology acceptance. The results of the total model, including both variables, showed $R^2 = 0.59$, $F(4, 265) = 99.05$, $p < .01$. For perceived usefulness $\beta = .50$, $SE = 0.04$, 95% CI [0.36, 0.53] and for perceived ease of use $\beta = .37$, $SE = 0.05$, 95% CI [0.27, 0.46]. This indicates that perceived usefulness is a relatively more important predictor of technology acceptance. However, perceived ease of use still has a unique significant contribution.

Computer self-efficacy, perceived usefulness and perceived ease of use

In hypothesis 3 a and 3b it was expected that computer self-efficacy would be positively related to perceived usefulness and perceived ease of use. In accordance with the expectation, the results of linear regression analysis with bootstrapping showed that computer self-efficacy was positively related to perceived usefulness, $R^2 = 0.05$, $F(3, 266) = 4.37$, $p < .01$, $\beta = .19$, $SE = 0.16$, 95% CI [0.19, 0,82]. As expected, computer self-efficacy was also positively related to perceived ease of use, $R^2 = 0.11$, $F(3, 266) = 11.23$, $p < .01$, $\beta = .34$, $SE = 0.14$, 95% CI [0.53, 1.07]. These results support hypothesis 3a and 3b, which indicated that when feelings of computer self-efficacy increase, levels of perceived usefulness and perceived ease of use also increase.

Technology acceptance as mediator

Hypothesis 4a predicted that technology acceptance would mediate the relationship between perceived usefulness and techno strain. Mediation analysis with bootstrapping showed that the indirect effect of (a1b) perceived usefulness on techno strain via technology acceptance was significant: $\beta = -0.29$, $SE = 0.06$, 95% CI [-0.42, -0.17]. Technology acceptance reduced the standardized regression coefficient of the direct relationship between

perceived usefulness and techno strain significantly from β = -0.56 to β = -0.27, which means that technology acceptance functioned as a mediator between perceived usefulness and techno strain. As shown in Table 2, the direct effect (c1') was also significant, which means that technology acceptance partially mediated the negative relationship between perceived usefulness and techno strain.

Hypothesis 4b predicted that technology acceptance would mediate the relationship between perceived ease of use and techno strain. Mediation analysis with bootstrapping showed that the indirect effect (a2b) of perceived ease of use on techno strain via technology acceptance was significant: β = -0.21, *SE* = 0.05, 95% CI [-0.31, -0.11]. Technology acceptance reduced the direct relationship between perceived ease of use and techno strain significantly from β = -0.63 to β = -0.42, which means that technology acceptance functioned as a mediator between perceived ease of use and techno strain. The direct effect (c2') was also significant (see Table 2), which confirms hypothesis 4b, that technology acceptance partially mediated the relationship between perceived ease of use and techno strain.

Table 2

Standardized regression coefficients (β), Standard Errors (SE) and model summary information of the mediation of technology acceptance (M) in the relationship between perceived usefulness (X1), perceived ease of use (X2) and techno strain (Y) as illustrated in Figure 2 (N = 270).

	Techno strain (Y)			
Antecedent		*B*	*SE*	95% CI
Perceived Usefulness (X1)	Perceived usefulness – Technology acceptance (a1)	0.72**	0.04	[0.57, 0.72]
	Technology acceptance – Techno strain (b)	-0.41**	0.03	[-0.24, -0.12]
	Total effect (c1)	-0.56**	0.02	[-0.27, -0.19]
	Indirect effect (a1b)	-0.29**	0.06	[-0.42, -0.17]
	Direct effect (c1')	-0.27**	0.03	[-0.16, -0.06]
Model Summary Total		R^2 = 0.35		
		$F(3, 266) = 47.58$, $p < 0.01$		

Perceived Ease of Use (X2)	Perceived ease of use – Technology acceptance (a2)	0.66**	0.05	[0.57, 0,75]
	Technology acceptance – Techno strain (b)	-0.32**	0.03	[-0.20, -0.10]
	Total effect (c2)	-0.63**	0.02	[-0.32, -0.24]
	Indirect effect (a2b)	-0.21**	0.05	[-0.31, -0.11]
	Direct effect (c2')	-0.42**	0.03	[-0.24, -0.14]
Model Summary Total		$R^2 = 0.43$		
		$F(3, 266) = 68.41$, $p < 0.01$		

Note. Age and hours working with MyHR as control variables. ** $p < .01$.

Hypothesis 4c predicted that technology acceptance would mediate the relationship between perceived usefulness and techno engagement. The indirect effect (a1b) of perceived usefulness on techno engagement via technology acceptance was significant: $\beta = 0.25$, $SE = 0.06$, 95% CI [0.13, 0.38]. Technology acceptance reduced the direct relationship between perceived usefulness and techno engagement significantly from $\beta = 0.46$ to $\beta = 0.21$. The direct effect (c1', see Table 3) was also significant, which means that technology acceptance partially mediated the positive relationship between perceived usefulness and techno engagement.

Conform hypothesis 4d, technology acceptance mediated the positive relationship between perceived ease of use and techno engagement. The indirect effect (a2b) of perceived ease of use on techno engagement via technology acceptance was significant: $\beta = 0.35$, $SE = 0.05$, 95% CI [0.25, 0.46]. As shown in Table 3, the direct effect (c2') was not significant, the 95% CI did include zero, which means that technology acceptance fully mediated the positive relationship between perceived ease of use and techno engagement.

Table 3

Standardized regression coefficients (β), Standard Errors (SE) and model summary information of the mediation of technology acceptance (M) in the relationship between perceived usefulness (X1), perceived ease of use (X2) and techno engagement (Y) as illustrated in Figure 2 (N = 270).

Techno engagement (Y)				
Antecedent		*B*	*SE*	95% CI
Perceived Usefulness (X1)	Perceived usefulness – Technology acceptance (a1)	0.72**	0.04	[0.57, 0.72]
	Technology acceptance – Techno engagement (b)	0.35**	0.08	[0.23, 0.55]
	Total effect (c1)	0.46**	0.05	[0.35, 0.56]
	Indirect effect (a1b)	0.25**	0.06	[0.13, 0.38]
	Direct effect (c1')	0.21**	0.07	[0.06, 0.35]
Model Summary Total		$R^2 = 0.23$		
		$F(3, 266) = 25.89$, $p < 0.01$		
Perceived Ease of Use (X2)	Perceived ease of use – Technology acceptance (a2)	0.66**	0.05	[0.57, 0,75]
	Technology acceptance – Techno engagement (b)	0.53**	0.08	[0.43, 0.73]
	Total effect (c2)	0.31**	0.06	[0.22, 0.47]
	Indirect effect (a2b)	0.35**	0.05	[0.25, 0.46]
	Direct effect (c2')	-0.04	0.05	[-0.19, 0.11]
Model Summary Total		$R^2 = 0.11$		
		$F(3, 266) = 11.31$, $p < 0.01$		

Note. Age and hours working with MyHR as control variables. ** $p < .01$.

Perceived usefulness and perceived ease of use as mediators

Hypothesis 5 predicted that perceived usefulness would mediate the relationship between computer self-efficacy and technology acceptance. The indirect effect (a1b1) was significant: $\beta = 0.13$, $SE = 0.04$, 95% CI [0.05, 0.22]. Perceived usefulness reduced the power of the direct relationship between computer self-efficacy and technology acceptance significantly from $\beta = 0.23$ to $\beta = 0.09$. As shown in Table 4, the direct effect (c1') was significant, which means that perceived usefulness partially mediated the positive relationship between computer self-efficacy and technology acceptance.

Hypothesis 6 predicted that perceived ease of use would mediate the relationship between computer self-efficacy and technology acceptance. The indirect effect (a2b2) was significant: $\beta = 0.22$, $SE = 0.04$, 95% CI [0.14, 0.31]. The direct effect (c2') (see Table 4) was not significant, the 95% CI did include zero, which means that perceived ease of use fully mediated the positive relationship between computer self-efficacy and technology acceptance.

Table 4

Standardized regression coefficients (β), Standard Errors (SE) and model summary information of the mediation of perceived usefulness(M1) and perceived ease of use (M2) in the relationship between computer self-efficacy (X) and technology acceptance (Y) as illustrated in Figure 3 (N = 270).

	Technology acceptance (Y)			
Antecedent		*B*	*SE*	95% CI
Computer self-efficacy (X)	Computer self-efficacy – Perceived usefulness (a1)	0.19**	0.16	[0.19, 0,82]
	Computer self-efficacy – Perceived ease of use (a2)	0.34**	0.14	[0.53, 1.07]
	Perceived usefulness – Technology acceptance (b1)	0.70**	0.04	[0.55, 0.71]
	Perceived ease of use – Technology acceptance (b2)	0.66**	0.05	[0.57, 0.76]
	Total effect (c)	0.23**	0.14	[0.26, 0.82]
	Indirect effect (a1b1)	0.13**	0.04	[0.05, 0.22]
	Indirect effect (a2b2)	0.22**	0.04	[0.14, 0.31]
	Direct effect (c1')	0.09*	0.10	[0.02, 0.43]
	Direct effect (c2')	0.005	0.11	[-0.22, 0.24]
Model Summary Total		$R^2 = 0.05$		
		$F(3, 266) = 5{,}03$, $p < 0.01$		

Note. Age and hours working with MyHR as control variables. * $p < .05$. ** $p < .01$.

Discussion

Nowadays, employees are constantly surrounded by new technologies. The present study is one of the first studies that examined both the negative and positive impact on the motivation of the employees to work with new technologies. More specifically, the purpose of this study was to examine to what extent the acceptance of a new technology, MyHR, and computer self-efficacy were related to techno strain and techno engagement among managers of a Dutch supermarket chain (N = 270). The results emphasized the importance of focussing on the usefulness, ease of use and acceptance of a new technology to reduce techno strain and to promote employee (techno)engagement.

Theoretical implications

First, the current study has contributed to the clarification of the concept of technostress. The Transactional Theory of Stress (Lazarus, 1996) helped in disentangling objective stressors (in this study the implementation of the new technology MyHR) and the individual evaluation of this new technology. The latter determines whether an employee perceives a technology as an additional demand which may cause feelings of strain (e.g. anxiety) or more as a resource that motivates them to become more engaged in their work (Day et al., 2010). The current study focused on those individual evaluations and attitudes towards the new technology MyHR. By using the TAM, it was possible to examine the attitudes, such as the acceptance, perceived usefulness and perceived ease of use of the technology. In addition, the TAM helped to find predictors in order to explain techno strain and techno engagement. In sum, the combination of the Transactional Theory of Stress and TAM contributed to a better understanding of the different consequences of working with new technologies.

Techno strain and technology acceptance. In line with previous research from Tarafdar et al. (2015), this study showed that there is a negative relationship between positive attitudes, in this study technology acceptance, and strain. In line with these findings, this study indicated that perceived usefulness and perceived ease of use are predictors of technology acceptance. These results are supported by many previous studies (Davis, 1989; Malhotra & Galletta, 1999; Moon & Kim, 2001). Thereby, and in accordance with the meta-analysis from Ma & Liu (2004), the results showed that perceived usefulness seems to be a stronger predictor of technological acceptance than perceived ease of use. In addition, in this study, technology acceptance functioned as mediator in the relationship between perceived usefulness and techno strain and between perceived ease of use and techno strain. This means

that perceiving a technology as useful and easy to use will be directly related with decreased feelings of techno strain and indirectly through the acceptance of the technology. In sum, the acceptance, perceived usefulness and perceived ease of use of a new technology seem to be important factors in the relationships between attitudes and techno strain.

Techno engagement and technology acceptance. As mentioned before, if the individual evaluation of the new technology is positive, it seems logical that employees will experience less feelings of strain. However, the current study revealed that positive attitudes may not only lead to less strain but also to more feelings of engagement. Therefore, the distinction made between techno strain and techno engagement was useful, since there was no earlier empirical evidence for this. This study demonstrated that technology acceptance was positively related to techno engagement. When employees accept a new technology, it seems plausible that a work-related state of mind characterized by being motivated to get involved with the new technology, called techno engagement, may arise. As mentioned before, perceived usefulness seemed to be a stronger predictor for technology acceptance than perceived ease of use. Possible explanation is that if employees believe that using MyHR would enhance their job performance, it seems plausible that they accept the new technology more easily. They may become more motivated to work with the new technology, even if the technology is perceived as not free of effort.

As expected, technology acceptance functioned as mediator in the relationships between perceived usefulness and techno engagement and between perceived ease of use and techno engagement. For the first relationship, this indicates that perceiving a technology as useful will be associated with increased feelings of techno engagement and indirectly through technology acceptance. Secondly, perceiving a technology as easy to use might increase feelings of techno engagement, but only through the acceptance of the technology. By addressing these mediation effects, this study makes an important contribution to the literature. Although causal conclusions cannot be drawn due to the cross-sectional design of this study, these results are in line with previous research that showed that employees who consider working with technologies more as a resource that motivates them may become more engaged in their work (Day et al., 2010). In conclusion, technology acceptance, perceived usefulness and perceived ease of use seem to be important facilitators for techno engagement.

Computer self-efficacy and technology acceptance. Conform the hypotheses, computer self-efficacy appeared to be positively related to perceived usefulness and perceived ease of use. These findings imply that if employees believe that they can complete specific tasks and deal with problems while using the new technology, this may lead to the perception

of the new technology as useful and easy to use. These results are in line with a previous study from Venkatesh & Davis (1996) who also found that high computer self-efficacy was associated with positive attitudes towards computers. In addition, Venkatesh (2000) suggested that self-efficacy may serve as anchor when forming a perception of the ease of use of a technology. As expected, perceived usefulness and perceived ease of use functioned as mediator in the positive relationship between computer self-efficacy and technology acceptance. Believing that you can complete specific tasks while using MyHR was associated with accepting MyHR via increased perceptions of usefulness and ease of use of MyHR. Explanations of these findings can be found in the 'Social Cognitive Theory' (Bandura, 1982) who indicated that individuals' beliefs about how well they can perform certain tasks and behaviour shape their attitudes. In addition, Compeau et al. (1999) indicated already that judgments of individuals about their capability for completing technology tasks have been linked to computer attitudes. In short, the results of computer self-efficacy in relationship with attitudes about a technology were supported by previous findings and emphasized the importance of self-efficacy beliefs towards new technologies.

Control variables. The control variables age and hours working with MyHR did not have significant effects on the dependent variables except for age in relationship with techno strain. Unexpectedly, we found that technostrain decreased with age. Czaja et al. (2006) indicated namely that how older an employee is, the more they experience feelings of anxiety. One possible explanation for the unexpected relationship could be that because of their age, older employee worry less and therefore are better in dealing with stressors or changes. Supportive of this line of reasoning, previous research suggested that older people do not experience more feelings of techno strain compared to younger people (Hudiburg & Necessary, 1996).

Limitations and future research

Although the current study provided relevant insights, it has several limitations. First, due to the cross-sectional design of the study, causal relationships could not be established. Moreover, reversed causality between the relationships could not be ruled out. For example, when employees are engaged in their work it seems logical that their attitudes are more positive towards a new technology. Hence, future studies should aim at longitudinal research in order to be able to draw more firm conclusions. A second limitation is that in the current study we only used self-reported measures which led to variance attributed to the measurement method, so-called common-method variance (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Future studies could aim at measuring research variables in a more

objective way, such as other rated versions of some research variables which may increase the validity of the study. For example, examining technology acceptance by measuring the actual usage of the new technology. Szajna (1996) already used this objective way to measure technology acceptance. In addition, it could be interesting to objectively measure ease of use by examining how quickly people perform a certain task with the new technology. Thirdly, most of the employees indicated that they almost never suffer from techno strain. A possible explanation for these relatively low scores could be that MyHR makes it easier for employees to execute HR processes which may lead to increased productivity (Beer, 2016) and work efficiency (Chesley, 2010; O'Driscoll et al., 2010). For future research, it is recommended to find a technological innovation that people are more divided about. Another explanation for the relative low scores on techno strain may have to do with the short training that employees had before the implementation of MyHR. Further investigation in follow-up research is needed to examine the role of training. Finally, as this study was not representative for the whole organisation, some caution has to be made with respect to generalization. There could very well be a selection bias, as the participants were not randomly selected. Thereby, there is no information about the participants who dropped out during the questionnaire or didn't fill out the questionnaire completely. It seems possible that the current group of participants represents the employees who accept MyHR or the employees who are more engaged in their work.

For future research, it could be interesting to analyse techno strain and techno engagement separately per dimension, such as anxiety. By doing this, there will be more insight into the specific aspects of techno strain and techno engagement. Furthermore, future studies could examine the other key facilitators or barriers in the area of techno engagement, such as the role of personal innovativeness or the involuntary imposition of ICT (O'Driscoll et al, 2010). Finally, other individual differences that may be related to techno strain, techno engagement or technology acceptance can be explored in the future. For example, gender or personality. Despite all limitations, this study was one of the first studies that gave insight into the processes underlying negative and positive consequences of working with new technologies. Thereby, this research emphasized the importance of self-efficacy, usefulness, ease of use and acceptance of a new technology in the relationships between technologies and well-being.

Practical implications

The insights of this study may benefit the HR-professionals of the Dutch supermarket chain. They play an important role in implementing new technologies. For them it seems

useful to pay attention to the acceptance of a new technology by focussing on usefulness and ease of use in order to motivate employees to work with the new technology and to promote the well-being of the employees. Giving training about the new technology seems to be a useful tool they already use. With training, it can be demonstrated how useful and easy to use the new technology is. Thereby, it is an opportunity for employees to ask questions and practice with the new technology, which may increase self-efficacy and employees with self-efficacy will more easily adapt technology change (Ellen, Bearden & Sharma, 1991). In addition, social support from managers seems helpful to increase self-efficacy. Finally, Venkatesh et al. (2003) found that employees accept the technology less when the technology has been introduced mandatory. By examining in advance how employees feel about technology changes they will be more involved in the process, whereby the new technology feels less like an obligation. HR-professionals of the Dutch supermarket chain can bring these insights of this study into practice in 2020, when a new international comparable technology like MyHR, Blade, will be implemented.

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Appendix 1

Informed consent

Beste deelnemer,

Hartelijk dank voor het meewerken aan ons onderzoek naar de ervaringen met het programma MyHR. Doel van het onderzoek is inzicht krijgen in hoeverre individuele verschillen in motivatie en het vermogen om met technologische ontwikkelingen om te gaan hierbij een rol spelen. Daarnaast wordt gekeken in hoeverre de ervaringen invloed hebben op stress of bevlogenheid m.b.t. tot het nieuwe programma.

Aan het begin van de vragenlijst wordt gevraagd naar een aantal achtergrondgegevens. De overige vragen hebben betrekking op het programma MyHR en het werken met dit programma of nieuwe programma's in het algemeen.

Alle gegevens zullen anoniem en vertrouwelijk behandeld worden. De resultaten zullen alleen gebruikt worden voor dit onderzoek t.b.v. onze mastopleiding Arbeid & Organisatiepsychologie aan de Universiteit Utrecht. Het invullen van de vragenlijst kost u ongeveer 10 minuten. Uiteraard is uw deelname geheel vrijblijvend en kunt u gedurende het onderzoek op ieder moment stoppen met het invullen van de vragenlijst. Uw gegevens worden dan niet verwerkt.

Na afloop van het onderzoek zal zullen de resultaten van het onderzoek via de mail gedeeld worden. Als u verdere vragen of suggesties heeft kunt u ons bereiken via e-mail (m.f.profijt@students.uu.nl & b.veling@students.uu.nl)

Zodra u naar de volgende pagina gaat, stemt u in met deelname aan dit onderzoek. Alvast hartelijk dank!

Met vriendelijke groet,

Maxime Profijt & Bart Veling
Studenten Master Arbeid & Organisatiepsychologie Universiteit Utrecht

Background questions

1. **Wat is uw geslacht?**

   Man

   Vrouw
2. **Wat is uw leeftijd in jaren?**
3. **Wat is uw hoogst behaalde opleidingsniveau?**

   Basisschool

   VMBO

   HAVO

   VWO

   MBO

   HBO

   WO
4. **Wat is uw functie?**

   Supermarktmanager

   Assistent Supermarktmanager

   Teamleider
5. **Hoeveel jaar bent u al werkzaam in uw huidige functie?**
6. **Hoeveel jaar bent u al werkzaam bij uw huidige werkgever?**
7. **Hoeveel uur werkt u per week?**

MyHR

1. **Hoeveel maanden werkt u al met MyHR?**
2. **Hoe vaak maakt u gebruik van MyHR?**

   Helemaal niet

   Minder dan één keer per week

   Ongeveer één keer per week

   Meerdere keren per week

   Ongeveer één keer per dag

   Meerdere keren per dag
3. **Hoeveel tijd (<u>in uren</u>) besteedt u gemiddeld per week aan het werken met MyHR?**

Techno strain

Hieronder vindt u een aantal stellingen over het gebruik van MyHR. Lees elke stelling aandachtig door en geef aan in hoeverre u het eens bent door de optie te selecteren die op u van toepassing is.

1. Na verloop van tijd interesseert MyHR mij steeds minder.
2. Ik voel mij steeds minder betrokken bij het gebruik van MyHR.
3. Ik ben cynisch over de vraag of MyHR iets bijdraagt aan mijn werk.
4. Ik twijfel aan het belang van werken met MyHR.

Antwoordschalen: 0 = helemaal mee oneens, 1 = mee oneens, 2 = enigszins mee oneens, 3 = niet eens, niet oneens, 4 = enigszins mee eens, 5 = mee eens, 6 = helemaal mee eens.

5. Ik vind het moeilijk om te ontspannen nadat ik MyHR heb gebruikt.
6. Als ik klaar ben met werken met MyHR, voel ik me uitgeput.
7. Als ik klaar ben met werken met MyHR ben ik zo moe, dat ik niets anders kan doen.
8. Het is moeilijk om me te concentreren nadat ik met MyHR heb gewerkt.
9. Ik voel me gespannen en angstig om met MyHR te werken.
10. Het beangstigt me om te denken dat ik veel informatie kwijt kan raken door het verkeerd gebruiken van MyHR.
11. Ik twijfel om MyHR te gebruiken uit angst om fouten te maken.
12. Werken met MyHR maakt dat ik me ongemakkelijk, geïrriteerd en ongeduldig voel.
13. Ik heb het idee dat ik MyHR op een inefficiënte manier gebruik.
14. Het is moeilijk om te werken met MyHR.
15. Mensen zeggen dat ik MyHR op een inefficiënte manier gebruik.
16. Ik ben er niet zeker van dat ik mijn taken naar behoren uitvoer wanneer ik gebruik maak van MyHR.

Antwoordschalen: 0 = nooit, 1 = sporadisch, 2 = af en toe, 3 = regelmatig, 4 = dikwijls, 5 = zeer dikwijls, 6 = altijd.

Skepticism (items 1 – 4)
Fatigue (items 5 – 8)

Anxiety (items 9 – 12)
Ineffectiveness (items 13 – 16)

TAM (Technology acceptance, PU & PEU)

De volgende uitspraken hebben betrekking op hoe nuttig en gebruiksvriendelijk u het werken met MyHR vindt. Wilt u aangeven in welke mate u het eens of oneens bent met iedere uitspraak door steeds de best passende optie in te vullen.

Perceived Usefulness (PU)

1. Het gebruik van MyHR verbetert mijn prestaties.
2. Het gebruik van MyHR verhoogt mijn productiviteit.
3. Het gebruik van MyHR verhoogt mijn effectiviteit.
4. Ik vind MyHR nuttig.

Antwoordschalen: 0 = helemaal mee oneens, 1 = mee oneens, 2 = enigszins mee oneens, 3 = niet eens, niet oneens, 4 = enigszins mee eens, 5 = mee eens, 6 = helemaal mee eens.

Perceived Ease of Use (PEU)

1. Het gebruik van MyHR is duidelijk en begrijpelijk.
2. Het gebruik van MyHR vereist niet veel mentale inspanning.
3. Ik vind MyHR gemakkelijk te gebruiken.
4. Ik vind het gemakkelijk om MyHR te laten doen wat ik wil dat het systeem doet.

Antwoordschalen: 0 = helemaal mee oneens, 1 = mee oneens, 2 = enigszins mee oneens, 3 = niet eens, niet oneens, 4 = enigszins mee eens, 5 = mee eens, 6 = helemaal mee eens.

Technology acceptance

1. MyHR gebruiken is een goed idee.
2. Werken met MyHR is leuk.
3. MyHR gebruiken is interessant.
4. Over het algemeen, werk ik graag met het MyHR.

Antwoordschalen: 0 = helemaal mee oneens, 1 = mee oneens, 2 = enigszins mee oneens, 3 = niet eens, niet oneens, 4 = enigszins mee eens, 5 = mee eens, 6 = helemaal mee eens.

Computer self-efficacy

De volgende vragen gaan over uw vertrouwen in eigen kunnen met betrekking tot het gebruik van nieuwe softwareprogramma's.

Stelt u zich voor dat u een nieuw softwareprogramma heeft gekregen voor een bepaald aspect van uw werk met als doel om uw werk gemakkelijker te maken en dat u het programma nog nooit eerder heeft gebruikt. Voor de volgende vragen wordt u gevraagd aan te geven of u dit nieuwe onbekende softwareprogramma kunt gebruiken onder verschillende omstandigheden. Geef voor elke omstandigheid aan hoeveel vertrouwen u heeft in eigen kunnen om de taken uit te voeren met behulp van het softwareprogramma.

Ik kan de taken uitvoeren met behulp van het nieuwe softwareprogramma…

1. ..ook al is er niemand in de buurt is om me te vertellen wat ik moet doen
2. ..als ik nog nooit zo'n soort programma heb gebruikt
3. ..ook als ik alleen de handleidingen als referentie heb
4. ..als ik iemand anders het programma heb zien gebruiken voordat ik het zelf heb uitgeprobeerd
5. ..als ik iemand kan bellen voor hulp als ik vastloop
6. ..als iemand anders mij heeft geholpen om te starten
7. ..als ik veel tijd heb om de taak uit te voeren waarvoor het programma bedoeld is
8. ..ook als ik alleen de ingebouwde helpfunctie voor hulp heb
9. ..als iemand mij eerst laat zien hoe ik het moet doen
10. ..als ik al eerder vergelijkbare programma's heb gebruikt om dezelfde taken uit te voeren

Antwoordschalen: 0 = totaal geen vertrouwen, 1 = geen vertrouwen, 2 = gemiddeld vertrouwen, 3 = vertrouwen, 4 = heel veel vertrouwen.

Techno engagement

De volgende uitspraken hebben betrekking op hoe u het werken met MyHR beleeft en hoe u zich daarbij voelt. Wilt u aangeven hoe vaak iedere uitspraak op u van toepassing is door steeds de best passende optie in te vullen.

1. Tijdens het werken met MyHR bruis ik van energie
2. Als ik werk met MyHR voel ik me fit en sterk
3. Ik ben enthousiast over werken met MyHR
4. Het werken met MyHR inspireert mij
5. Als ik 's morgens opsta heb ik zin om met MyHR aan het werk te gaan
6. Wanneer ik heel intensief aan het werk ben met MyHR, voel ik mij gelukkig
7. Ik ben trots op het werk dat ik met MyHR doe
8. Ik ga helemaal op in het werken met MyHR
9. Werken met MyHR brengt mij in vervoering

Antwoordschalen: 0 = nooit, 1 = sporadisch, 2 = af en toe, 3 = regelmatig, 4 = dikwijls, 5 = zeer dikwijls, 6 = altijd.

Vigor (items 1 – 3)
Dedication (items 4 – 6)
Absorption (items 7 – 9)