

Change fatigue, social support and working with the newest technologies:

The crucial role of technology acceptance in employee well-being

Social, Health, and Organisational Psychology (Work & Organisational track)



Universiteit Utrecht

Student: Bart Veling (3937860)

Supervisor: Prof. dr. Maria Peeters

Second Accessor: Prof. dr. Toon Taris

Date: 24-06-2020

Word count: 8155 (excluding appendices)

Manuscript could be made publicly accessible

Abstract

Workers have been subjected to technological developments for years. When technological innovation keeps changing the work field, employees are required to change along. The present study focused on change fatigue among employees and studied whether perceived organizational support contributed to higher technology acceptance. Furthermore, the aim of the study was to examine the relationship between technology acceptance and positive and negative psychological stress outcomes related to technology use, namely technostress and technology acceptance. Data were collected using an online survey from 270 managers of a Dutch supermarket chain. The participants were the users of new HR-administrative software, called MyHR. Two mediation and one moderation analyses were done to test the hypotheses. The results confirmed that change fatigue was negatively related to technology acceptance and that perceived organizational support functioned as a moderation variable, which reduced the negative effect change fatigue had on technology acceptance. Furthermore, technology acceptance was found to be positively related to technology engagement and negatively related to technostress. These results showed the importance of focussing on positive well-being outcomes as well as negative ones, which will hopefully lead to more scientific attention towards technology engagement. Lastly, technology acceptance was successfully operationalized as a mediator in the relation between change fatigue and employee well-being outcomes. The current research tried to incorporate the psychological stress theory to enrich the theory of technostress and technology acceptance and show the importance of interdisciplinary theoretical enrichment.

KEYWORDS: : technostress, technology engagement, technology acceptance, TAM, change fatigue, perceived organizational support.

Table of Contents

Introduction	4
Theoretical background	6
Technostress and technology engagement	6
Technology Acceptance	8
Change fatigue	8
Perceived Organizational Support	9
Research model.....	11
Methods	12
Procedure	12
Participants	12
Measures	13
Design & Analysis.....	15
Results	16
Descriptives and Pearson correlation analysis.....	16
Simple mediation analyses	17
Simple moderation analysis.....	19
Discussion	22
Theoretical implications	22
Practical implications	25
Limitations and future research	26
Appendix 1: Informed consent	36
Appendix 2: Facebook reminder text	37
Appendix 3: Questionnaire.....	38

Introduction

Workers have been subjected to technological developments for years. Since the Industrial Revolution in the 18th century, people had to adapt to the innovative technologies, demanding to make workers more productive and efficient. Now we are in a new technological revolution, often called the 4th Industrial Revolution (Schwab, 2017). Changes are taking place rapidly, work is becoming increasingly digital, and labor seems to be slowly being taken out of employees' hands (Bahl & Dietzen, 2019; Brynjolfsson & McAfee, 2011). Digitalization only succeeds in improving productivity if workers are successful in changing accordingly. That is why the current study will look at the relationship between change fatigue and the acceptance of new technology and if perceived organizational support (POS) plays a moderating role between both.

Human Resource Management (HRM) is subject to a great deal of change due to technological developments (Johnson, Lukaszewski, & Stone, 2016). A couple of positive changes because of technological innovations can be distinguished. The first advantage resulting from these developments is that it is easier than ever to be compliant with legislation. Laws and regulations are continuously subject to change, and requires a lot of paperwork and knowledge among HR staff. New technologies such as cloud-based solutions make it easier to meet these requirements (Biro, 2018). In addition, innovative technologies increase efficiency through less administrative workload, thus HR administration can be done faster than before and takes less time (Biro, 2018; Johnson et al., 2016; Mike, 2019; Trehan, 2019). As a result of these changes, HR employees will have more time reserved for strategic HR work (Ashbaugh & Miranda, 2002; Biro, 2018). It is, for example, easier to analyse employee data and HR will be asked more to do so (Mike, 2019). In conclusion, the changes in HR mentioned above, make it vitally important to gain more insight into technological innovations within HR and what outcomes this brings for the employees. Therefore, it is crucial that more research into the technological innovation is conducted within HRM.

At the end of 2018, a Dutch retail giant has started with the implementation of a major technological innovation for the HR department. This new technology is called MyHR, and it is an HR administrative application that is used by managers in shops and distribution centres of the Dutch retail organization. MyHR is software that serves as a shell around the database (EMOS). The software sends and retrieves information to and from the database, and it ensures that the old and impractical database gets a good looking and easy to use interface. With this

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

software, managers can perform their HR administrative work, such as onboarding of a new employee, moving an employee to a different position, reducing or increasing contract hours, transferring an employee to another store, (in)voluntary termination, and so on. The program is in the first place build to replace the older HR-software, but in this organization at study they took this opportunity to create a software that meets the requirements of the user and makes the work as easy and efficient as possible.

Innovative developments do not automatically and only improve a field of work. Prior to technological innovations increasing productivity and efficiency of labor, it is vital that its users accept this technology (Hu, Chau, Sheng, & Tam, 1999). If employees find it difficult to accept new technology, this can have consequences for productivity and cost money (Weir, 2013), but it can also have negative consequences for the well-being of the employee (Ter Hoeven, van Zoonen, & Fonner, 2016). The use of new technology can cause stress, anxiety, or even physical discomfort (Wang, Shu, & Tu, 2008). In 1984, Brod (1984a) introduced the concept of technostress, which he described as a modern disease caused by not being able to handle technology in a healthy way. Since then, a lot of research into technostress has been done. More recently, Salanova, Llorens, Cifre, & Nogareda (2007; 2014) describe technostress as a ‘negative psychological state associated with the use or threat of ICT use in the future. This experience is related to feelings of anxiety, mental fatigue, scepticism and inefficacy’.

Besides technostress or the negative outcomes of working with new technology, little or no research has been done into positive outcomes of working with technology, such as engagement. In fact, searching for research concerning technological innovation and engagement, the following meaning of engagement, retrieved from the Cambridge Dictionary, is used: ‘the fact of being involved with something’ (O'Brien & Toms, 2008; Parameswaran, Kishore, & Li, 2015). In the current study, however, a different definition will be used. The definition for technology engagement that will be used in current research is derived from the general definition of work engagement (Schaufeli, Wilmar, Salanova, González-romá, & Bakker, 2002). Technology engagement will be conceptualized that working with technology will produce ‘a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption’.

Ter Hoeven, van Zoonen, & Fonner (2016), acknowledge both engagement and burnout as positive and negative consequence of working with technology. Their research is based on the JD-R model. The JD-R model is a widely studied model that describes employee’s well-being as a consequence of perceived job conditions (job resources and demands) (Bakker,

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Demerouti, & Sanz-Vergel, 2014a; Demerouti & Bakker, 2011; Maslach, Schaufeli, & Leiter, 2001). Ter Hoeven et al. (2016), demonstrate that working with technology has a number of advantages (resources) and disadvantages (demands) that can be related to the well-being of employees in terms of burnout and engagement.

In the current study, the concept of technology related resources and demands will be further examined. Perceived organizational support (POS) will be taken into the model as a technology related resource and change fatigue as a technology related demand. There is a number of reasons to take POS into account when studying technology acceptance. Firstly, in research, higher POS is linked to lower change fatigue in employees. Furthermore, POS is valued to be important for organizations which are undergoing change and is seen as an important resource (Moyle & Parkes, 1999). In the current study the positive relationship between POS and technology change will be tested. Secondly, Change fatigue is taken into the research model because HR and retail are an fields that are subject to a lot of change already or will be in the future. It is therefore interesting to look at the effect of change fatigue on technology acceptance and its effects on technostress and technology engagement All things considered, in an increasingly digital world, it is crucial to investigate the positive and negative consequences of technological use and to investigate factors that determine the acceptance of technology use. The present study adds to the current literature in a number of ways. First as to our knowledge it is one of the first studies that focuses on the positive side of working with technology by adding the concept of technology engagement. Second, it combines two different trends in research by linking research regarding technology acceptance with research about technology use and employee well-being. Third, the current study measures the relationship between perceived organizational support (a form of social support) and technology acceptance, this relationship is still underexposed in the literature. Fourth, the current research examines the importance of change fatigue in accepting new technology and includes the role of social support in this interaction.

Theoretical background

Technostress and technology engagement

The concept of technostress was first raised by Brod (1984b). He describes it as ‘a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner,’ and this concept is further elaborated by Caro & Sethi (1985). Since then,

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

research into technostress has slowly gained ground and has been on the rise in recent years. For example, if you search for ‘Technostress’ on Google Scholar, you will get a total of 7920 results. When a filter is applied, to show just the research published in the last 4 years, you will get 3120 hits (39% of the total), and past year alone is already 12% of the total. All these studies provide different definitions of technostress. The common ground of these definitions is that most of them encompass psychological, physical or behavioural responses to techno-stressors (Salanova, Marisa, Llorens, & Cifre, 2013). In the current study, a definition proposed by Salanova, Llorens, Cifre, & Nogareda (2007) will be used. Their description of technostress is specifically aimed at experiencing technostress at work and is therefore applicable to the current research. They state technostress as the ‘negative psychological state associated with the use or threat of ICT use in the future. This experience is related to feelings of anxiety, mental fatigue, scepticism and inefficacy’. Six years later, Salanova, Llorens & Cifre (2013) build on previous research, using the same definition of technostress, but they add technoaddiction to the concept of technostress, aiming to verify that technostress could be used as an umbrella encompassing two technostress experiences. Technoaddiction is a concept closely related to the literature of workaholism and not relevant to current research and is therefore left out of the investigation (Salanova et al., 2013).

The antithesis to technostress is technology engagement. So, it is expected that participants high in technostress or technology engagement, will score low in the other. As described earlier, technology engagement as a consequence of technology use has remained underexposed in research on the consequences of working with technology. General work engagement, on the other hand, is extensively discussed in the literature. Ter Hoeven et al. (2016) are innovative with their research, in which they link the use of Information and Communication Technologies (ICT) to employee well-being. In current research, we will further examine the relationship between technology use and employee well-being. Schaufeli, Salanova, González-romá, & Bakker (2002) describe engagement as ‘as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly, and one has difficulties with detaching oneself from work’.

Technology Acceptance

Much has been written about technology acceptance, and several models have been drawn up (Venkatesh, Morris, Davis, & Davis, 2003). Since Fred Davis introduced the Technology Acceptance Model (TAM) in 1989 (Davis, Bagozzi, & Warshaw, 1989; Davis, 1989), the TAM model has been dominant in the literature on technology acceptance up to and including now (Scherer, Siddiq, & Tondeur, 2019). The TAM model is based on the 'Theory of Reasoned Action (TRA)', a theory that explains of underlying motivation to perform specific actions (Ajzen, 1985). The original TAM model consists of two primary predictors 'perceived ease of use' (EU) and 'perceived usefulness' (U) of the dependent variable 'behavioral intention' (BI). The TAM model is high in predictive power to explain or predict the acceptance of technology (Ma & Yuen, 2005; Ndubisi, 2006) and is found to be appropriate for examining personal adoption and use of technology (Chu & Chen, 2016) and therefore highly suitable in the current research. Scoring high in technology acceptance most likely shows a positive attitude towards the technology and the behavioral intention (Davis et al., 1989). Connecting this finding with the study of ter Hoeven et al. (2016) we expect individuals with a positive attitude to perceive a specific technology as resourceful rather than (negatively loaded) demanding. Therefore, this study will bring to the test that when an individual scores high technology acceptance, he/she will score high in technology engagement and low in technostress. Based on this rationale, the following hypotheses have emerged.

Hypothesis 1.1: Technology acceptance is positively related to technology engagement.

Hypothesis 1.2: Technology acceptance is negatively related to technostress.

Change fatigue

Change fatigue can occur when employees undergo a lot of change, and perceive these changes as unsuccessful (McElroy, 1996), but also when the rate of change is perceived as too frequent (Bernerth, Walker, & Harris, 2011; Nguyen Huy, 2001). The ability to deal positively with change depends on the understanding of the change process and the likely effects of change on the recipients of change (McElroy, 1996). Therefore it is expected that the ability to change differs individually. The struggle with change comes from the human desire for predictability and order (Sutton & Kahn, 1987). If too much change takes place in the environment, employees may find this tough to handle and that could lead to a number of adverse outcomes.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

For example, change fatigue results in ‘a sense of malaise, frustration, and cynicism that any change effort was destined to fail (Ace & Parker, 2010; Venkatesh & Bala, 2008)’.

Another negative outcome caused by change can be explained from a stress perspective. Research has shown, that organizational change can result in stress-related consequences (Moyle & Parkes, 1999). Bernerth, Walker & Harris (2011) explain that ‘constant change by an organization may burn out employees’ adaptive resources and ultimately lead to the development of exhaustion and other negative consequences’. The definition of exhaustion is as follows: ‘exhaustion is a feeling of being depleted or overextended beyond one’s capacity to handle workplace demands. The energy to perform basic job tasks is gone and employees are left feeling drained’ (Halbesleben & Buckley, 2004). Therefore, in current research it is argued that techno change can serve as a workplace demand, and consequently resulting in technostress. It is expected that the individuals’ level of experienced change fatigue will determine the extent of technostress. Furthermore, building on research done by Jeffrey (2016), who found that change fatigue has a negative relationship with behavioral intention, it is expected that change fatigue has a got a direct and negative relationship with technology acceptance. In sum, it is expected that there exists a relationship between change fatigue and technology acceptance. In addition, we expect that the relationship between change fatigue and technostress/technology engagement will be mediated by technology acceptance. This leads to the following hypotheses.

Hypothesis 2.1: Change fatigue is negatively related to technology acceptance.

Hypothesis 2.2: Technology acceptance mediates the relationship between change fatigue and technology engagement.

Hypothesis 2.3: Technology acceptance mediates the relationship between change fatigue and technology engagement.

Perceived Organizational Support

Perceived organizational support (POS) is ‘the extent to which the organization values the employee’s contributions and cares about their well-being’ (Kurtessis et al., 2017a). Organizational support is viewed as a vital construct in a rapid changing sector. As McElroy states (1996): ‘change requires support within the organisation for individuals to overcome any resistance to change’. Up until now, there has not been done much research on the relationship

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

between social support and technology acceptance. For example, unlike the Theory of Planned Behavior, the TAM model does not take social influences into account (Cheng, 2019; Chu & Chen, 2016), and up until now there is no further TAM research that studied the effect of social support on technology use. Lee, Roh, Donahue, Lee, & Kim (2018), find in their investigation about health technology use among older Americans, that participants with higher education and higher social support were more likely to accept technology use. Masood & Lodhi (2016) studied the determinants of behavioral intentions to use SPSS among students. They show that social support is more important than the knowledge of a program in relationship to perceived usefulness and ease of use, higher PU and EU both leading to higher intentions to use technology (Masood & Lodhi, 2016). They confirm their hypothesis that ‘if a student is able to ask questions from teachers and interact with them, he/she will be more motivated to learn and use SPSS’ (Hsiao, Tu, & Chung, 2012). In the current research, it will be tested if this is the same for employees, searching for help and receiving what they are looking for, resulting in (higher) perceived organizational support. Also, Salanova et al. (2013) find that social support is negatively associated with change fatigue. Furthermore, they found evidence that lack of job resources, including social support, leads to higher technostrain. In the current study, we expect POS, as a specific form of social support, to buffer the negative relationship change fatigue and technology acceptance, because we argue that when employees perceive social support, they will have more energy to deal with the stress new changes bring along and therefore feel less fatigued. The concept of perceived organizational support will be measured as a moderating variable between change fatigue and technology acceptance.

Hypothesis 3.1: Perceived organizational support is a moderator in the relationship between change fatigue and technology acceptance, indicating that the relationships between change fatigue and technology acceptance will be less negative with high scores of POS.

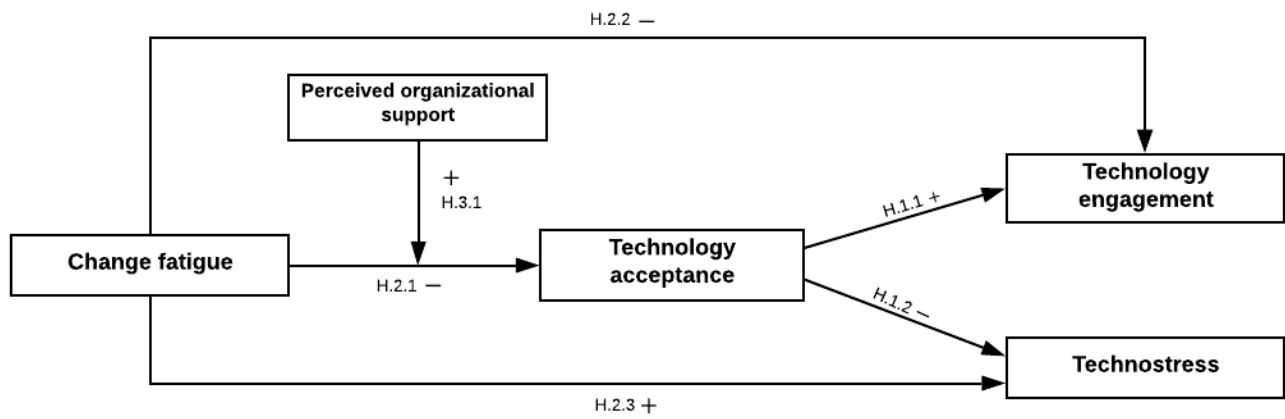
Research model

Figure 1. Research framework and hypotheses.

Methods

Procedure

The data were collected surveying employees from a Dutch supermarket chain. On the 17th of April 2019, three mass mails were sent internally to employees with the positions: team leader, assistant supermarket manager, and supermarket manager. These three function groups have been targeted because only employees in this group work with MyHR software. Three weeks later, the 8th of May, a reminder was placed on a Facebook group of which merely team leaders can be a member. The choice was made to put the reminder through Facebook and not another internal mass mail, because the organisation prefers not to let the managers receive too many emails that are not directly related to work. Assuming that about two employees per store work with MyHR and that the email was sent to 660 stores, there would be 1320 suitable participants who have received the email. In this email, a link to an online questionnaire was included. The survey was created in Qualtrics, online questionnaire software, which is accessible via Utrecht University. Also, the email stated the importance of the research, what would be done with the data, and that this data would be treated anonymously and confidentially. Lastly, recipients were informed that participation in the study was voluntary, and participants could stop participating at any time. The data was then analysed with SPSS (version 25), statistical software commonly used in Social Sciences.

Participants

In this study, participants were approached via an internal mass mail and later team leaders were contacted again via Facebook. From a total of 433 participants who started with filling out the questionnaire, only 263 were found suitable for analysing. One hundred sixty-three participants were dropped because they didn't complete the questionnaire. Four participants were dropped because they indicated that they did not work with MyHR at all (three cases zero hours per week and once case had no experience with MyHR at all).

Participants' mean age was 35,63 (SD = 12,97), with a minimum age of 18 and a maximum age of 62 years old. Gender was close to being equally divided, 132 (49,3%) men and 136 women (50,7) contributed to the sample. With regard to education, 40 respondents had a university degree (14,9%), the majority, 132 (49,3%) completed higher education, 49 (18,3%) participants completed intermediate vocational education, 45 participants completed secondary education (i.e. pre-university education: n = 14, 5,2%; higher general secondary education: n =

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

23, 8,6%: lower general secondary education: $n = 8, 3\%$) and two respondents (0,7%) completed primary school so far. The sample consisted of 82 (30,6%) managers, 67 (25%) assistant-managers and 119 (44,4%) team leaders. The average years working in the current function was 8,53 (SD = 8,22), varying from 1 year to 40 years. The number of years working for the same employer was varying from 1 up to 45 years, with a mean of 15,39 (SD = 10,54). Respondents worked from 7 hours to 40 hours a week ($M = 31,93$; $SD = 10,53$), interesting to notice that 53,7% ($n = 144$) of the respondents worked full-time, 40 hours per week. Concerning MyHR use, number of months working with MyHR ranged from 1 to 7 with average of 3,16 months (SD = 1,4). Hours per week working with MyHR ranged from 0,05 to a maximum of 10 hours ($M = 1,35$; $SD = 1,18$). How frequent participants used MyHR each week ranged from 'less than one time per week (4.9%) (second lowest option in likert scale used)' and 'multiple times a day (8%) (highest option in the likert scale used)', the average frequency of use was multiple times a week (50.2%).

Measures

The questionnaire contained three demographic questions, four questions about employment, and three questions about MyHR use. Validated questionnaires were used to measure the remaining five constructs of the current research. All of these have been translated into Dutch, and in some cases, the scales were adapted to MyHR use. An example, the original scale for organization support entails the question 'The organization cares about my opinions.' The question is changed to 'The organisation cares about my opinions' and subsequently translated to Dutch ('De organisatie houdt rekening met mijn mening'). Most of the questionnaires are shortened to prevent the complete questionnaire from becoming too large to fill out for the managers of the supermarket chain. This will be explained in detail below.

Change fatigue. Change fatigue was measured by using a part of the questionnaire developed by Bernerth, Walker & Harris (2011). Four of the total six questions regarding change fatigue are used, selecting the questions with the highest factorial loading (.79, .78, .78 & .70). The questions were adapted so that they could be applied to the supermarket or MyHR and then translated into Dutch. For example, 'Too many change initiatives are introduced at xxx' was modified to 'Too many change initiatives are introduced at the supermarket' and then translated to Dutch (1 = 'strongly disagree', 7 = 'strongly agree'). The four-item change fatigue scale had a reliability of $\alpha = .88$.

Organizational support. Organizational support was measured by using the short

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

version of the Survey of Perceived Organizational Support (SPOS) (Eisenberger, Huntington, Hutchison, & Sowa, 1986). The original short version contained 16 questions with normal and reverse scored items. For this study, firstly the reverse scored items were deleted. Secondly, from the nine remaining questions, those less applicable in the retail, were removed as well. The six remaining questions were adapted so that they could be applied to the supermarket chain and then translated into Dutch. An example of one of the questions is ‘The organization cares about my opinions’ was changed to ‘The organization cares about my opinions’ and afterwards translated to Dutch (1 = ‘strongly disagree’, 7 = ‘strongly agree’). The adapted SPOS scale had a reliability of $\alpha = 0.90$.

Technology acceptance. Technology acceptance was measured by using the four items of Hu, Chau, Sheng & Tam (1999). The questions were translated into Dutch and adapted to MyHR use. An example of an item is: ‘Using MyHR is a good idea’ (1 = ‘strongly disagree’, 7 = ‘strongly agree’). The scale had a reliability of $\alpha = .91$.

Technostress. Technostress was assessed using a part of the Resources- Experience-Demands (RED) Questionnaire – Technostress (Llorens, Salanova, & Ventura, 2011). The initial questionnaire contained the following five unique constructs: anxiety, ineffectiveness, fatigue, skepticism and addiction. In this study, addiction was not included. The questionnaire included for the remaining four constructs each four questions, with a total of 16 questions. Logically, this questionnaire has also been translated into Dutch and the questions have been adapted to MyHR or the supermarket chain. All constructs measured using a 7-point Likert scale, although anxiety, ineffectiveness and fatigue were assessed on frequency (1 = ‘never’, 7 = ‘always’) and skepticism was measured on agreement (Bertram, 2007; McLeod, 2019) (1 = ‘strongly disagree’, 7 = ‘strongly agree’). The survey of total technostress scale had a reliability of $\alpha = .85$. For reasons of clarity, we analysed technostress in the current research as a single concept.

Technology engagement. Technology engagement was measured with an adaptation of the short version of the Utrecht Work Engagement Scale (Schaufeli, Wilmar B., Bakker, & Salanova, 2006). The questions relate to the three components of engagement (vitality, dedication, and absorption) with a total of nine items. In this case the questions were not translated to Dutch, but the existing Dutch version of the questionnaire was used (Utrechtse Bevlogenheid Schaal). Subsequently these items were transformed to address MyHR. One question, for example, ‘At my work, I feel bursting with energy’ was changed to ‘While working with MyHR I feel bursting with energy’ and then the Dutch translation was used. The

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Likert scale was used, ranging in frequency (1 = 'never, 7 = always). The reliability of the nine-item scale was $\alpha = .94$.

Design & Analysis

The design of the study was cross-sectional and a linear regression analyses will be done with a moderated mediator. First, the dataset was cleaned and coded. The data was directly retrieved from Qualtrics, so excess or personal data such as 'status', 'IPaddress' and 'duration in seconds' were removed. Second, the data were checked for the assumptions of linearity, homoscedasticity, independence and normality. Third, descriptive statistics were conducted to calculate means and standard deviations of variables and a Pearson correlation analysis was done to measure the correlation between variables. This study contained a simple moderation and two simple mediation analysis. The PROCESS macro from Hayes (2012) was used to carry out the analyses, using a 95% confidence interval for the regression with 5000 bootstrap samples. In figure 2 and 3 of the results section, the statistical models of simple moderation (model 1 PROCESS) and simple mediation (model 4 PROCESS) are illustrated. All analyses were carried out using SPSS (version 25), a 'Statistical Program for Social Sciences'.

Results

Descriptives and Pearson correlation analysis

The results from the correlation analysis with means and standard deviations for all variables are displayed in table 1. Considering that all variables are operationalized with Likert scales ranging from 1 to 7, it is notable how low the mean values for technostress ($M = 1.55$, $SD = .48$) and change fatigue ($M = 2.58$, $SD = 1.37$) are, indicating that participants on average experienced nearly no technostress and little change fatigue. Also, the mean for technology acceptance was relatively high ($M = 5.35$, $SD = 1.16$).

Inspection of the correlations is relevant, when later on with regression analyses. Firstly, hypotheses 1.1 and 1.2 stated that technology acceptance is positively related to engagement ($r = .51$, $p < .01$) and negatively related to technostress ($r = -.58$, $p < .01$). The correlations are in the right direction and statistically significant. Secondly, as hypothesized, change fatigue is negatively related to technology acceptance ($r = -.34$, $p < .01$). Also, change fatigue is positively related to technostress ($r = .30$, $p < .01$) and negatively related to technology engagement ($r = -.28$, $p < .01$). Finally, table 1 shows a negative correlation value between change fatigue and POS ($r = -.39$, $p < .01$) indicating that higher values for POS is associated with lower values in change fatigue.

Table 1

Descriptives (M, SD) and correlations between the variables (N = 263)

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Technostress	1.55	.48	-	-.30**	-.58**	.30**	-.15*
2. Technology engagement	3.02	1.38		-	.51**	-.28**	.35**
3. Technology acceptance	5.35	1.16			-	-.34**	.25**
4. Change fatigue	2.58	1.37				-	-.39**
5. POS	4.62	1.21					-

Note. ** $p < .01$, 2-tailed. * $p < .05$, 2-tailed.

Simple mediation analyses

Mediation analyses were used to estimate and test all hypotheses except for hypothesis 3.1. To test for hypotheses 1.1 to 2.3, Model 4 of the PROCESS macro of Hayes (2012) was used with 5000 bootstrap samples. In addition, the PROCESS macro does not report the statistical significance of the a_1b_1 or a_1b_2 path (see table 2) so these are calculated with the Sobel test (Preacher & Leonardelli, n.d.). In figure 2, the pathways of direct paths, indirect paths and mediation are displayed. Furthermore, figure 2 displays that there are two dependent variables instead of mere one, so the mediation analysis was executed twice, each differing in the dependent variable (Y1 technology engagement and Y2 technostress). The results of the mediation analyses are presented in table 2.

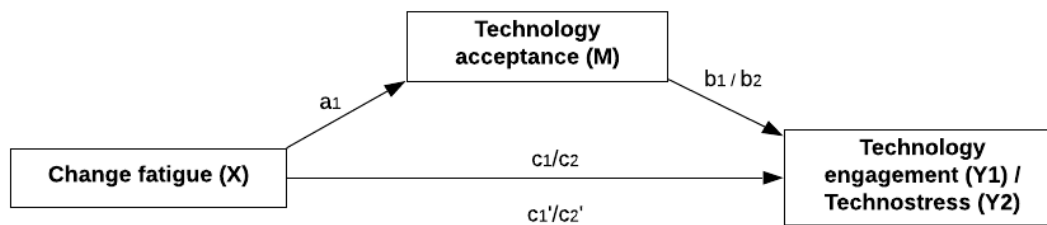


Figure 2. Statistical model of mediation (based on PROCESS model 4; see Hayes 2012).

Hypothesis 1.1 predicted a positive relationship between technology acceptance and technology engagement (b_1). The direct relationship between technology acceptance and technology engagement was found to be positive and significant ($\beta = .59$, $SE = .07$, $95\% CI [.46, .72]$), supporting the first hypothesis. In hypothesis 1.2, it was expected that technology acceptance was negatively related to technostress (path b_2). The second hypothesis was also supported, technology acceptance was significant and negatively related to technostress ($\beta = -.22$, $SE = .02$, $95\% CI [-.26, -.17]$). Both findings support the hypotheses and imply that employees who score high in technology acceptance are likely to score high in technology engagement and low in technostress.

Hypothesis 2.1 stated that change fatigue and technology acceptance are negatively related. In table 2 it is displayed that relationship between change fatigue and technology acceptance (a_1) was found to be negative and significant ($\beta = -.28$, $SE = .05$, $95\% CI [-.38, -.19]$). This finding supports hypothesis 2.1 and implies that employees who score high in change fatigue will have a low score for technology acceptance.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Table 2. Outcome table of two simple mediator analyses executed with the PROCESS macro of Hayes (2012) ($N = 263$).

Outcome variable: Technology engagement (Y1)			
	β	SE	95% CI
Change fatigue – Technology acceptance (a1)	-.28**	.05	[-.38, -.19]
Technology acceptance – Technology engagement (b1)	.59**	.07	[.46, .72]
Total effect (c1)	-.22**	.06	[-.34, -.10]
Indirect effect (a1b1)	-.17**	.04	[-.26, -.09]
Direct effect (c1')	-.05	.06	[-.16, .06]
<i>Model Summary Total:</i>		$R^2 = .05$, $F(261) = 12.84$, $p < .01$.	
Outcome variable: Technostress (Y2)			
	β	SE	95% CI
Change fatigue – Technology acceptance (a1)	-.28**	.05	[-.38, -.19]
Technology acceptance – Technostress (b2)	-.22**	.02	[-.26, -.18]
Total effect (c2)	.10**	.02	[.06, .14]
Indirect effect (a1b2)	.06**	.02	[.03, .10]
Direct effect (c2')	.04*	.02	[.01, .08]
<i>Model Summary Total:</i>		$R^2 = .09$, $F(261) = 25.22$, $p < .01$.	

Note. * $p < .05$, ** $p < .01$.

In hypothesis 2.2 it was expected that technology acceptance would mediate the relationship between change fatigue and technology engagement. To test whether the effect of change fatigue on technology engagement or technostress runs through the mediating variable technology acceptance, two mediating analyses were executed. The indirect effect for hypothesis 2.2 (a1b1) was negative and differs significantly from 0 (indirect = -.17, $SE = .04$, 95% CI [-.26, -.09]), indicating that there is mediation. Also, the inclusion of technology acceptance decreased the beta coefficient of the relationship between change fatigue and technology engagement from $\beta = -.22$ (total effect) to $\beta = -.05$ (direct effect) which is also support for mediation. The model summary total was $R^2 = .05$, $F(1,261) = 12.84$, $p < .01$, implying that the mediation model was significant, but only accounted for 5% of the variation. These findings show that the relationship between change fatigue and technology engagement

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

is fully mediated by technology acceptance and support hypothesis 2.2.

Hypothesis 2.3 expected technology acceptance to mediate the relationship between change fatigue and technostress. The indirect effect for hypothesis 2.3 (a1b2) was positive and differs significantly from 0 ($\beta = .06$, $SE = .02$, $95\% CI [.03, .10]$), indicating that there is mediation. In addition, technology acceptance decreased the beta coefficient of the direct relationship between change fatigue and technostress from $\beta = .10$ (total effect) to $\beta = .04$ (direct effect). Because $c2'$ was still significant, technology acceptance only partially mediated the negative relationship between change fatigue and technostress. The model summary total was $R^2 = .09$, $F(1,261) = 25.22$, $p < .01$, implying that the mediation model was significant, but only accounted for 9% of the variation. This finding confirms the hypothesis, but note that change fatigue still explains enough of the variance caused in dependent variable technostress, causing the mediation of technology acceptance only to be partial and not full.

Simple moderation analysis

A moderation analysis was used to test hypothesis 3.1. In order to calculate the effect of the moderation, Model 1 of the PROCESS macro of Hayes (2012) was used with 5000 bootstrap samples. In figure 3, the direct effects and interactions effect are displayed. The results of the moderation analysis is presented in table 3.

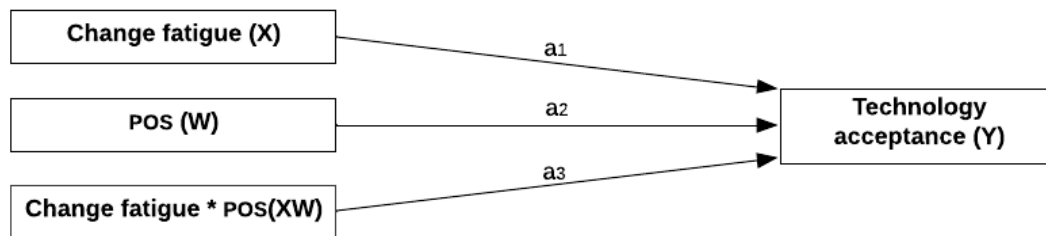


Figure 3. Statistical model of simple moderation (based on PROCESS model 1; see Hayes 2012).

Hypothesis 3.1 predicted POS to be a moderator in the relationship between change fatigue and technology acceptance. Firstly, the direct regression of change fatigue on technology acceptance ($a1$) was negative and significant ($\beta = -.58$, $SE = .17$, $95\% CI [-.91, -.25]$). Secondly, the direct regression of POS on technology acceptance ($a2$) was found to be insignificant ($\beta = -.08$, $SE = .12$, $95\% CI [-.31, .15]$). Thirdly, the interaction effect of the predictor change fatigue and the moderator POS on technology acceptance ($a3$) was found to

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

be positive and significant ($\beta = .08$, $SE = .04$, $95\% CI [.01, .16]$). These findings imply (1) a significant direct effect of change fatigue on technology acceptance, (2) POS is not found to be a significant predictor of technology acceptance and (3) a significant interaction effect with POS as a moderator in the relationship between change fatigue and technology acceptance. The total model summary total found the be significant ($R^2 = .14$, $F(3, 259) = 14.6$, $p < .01$), indicating that 14% of the observed variation, can be explained by the moderation model.

Table 2. *Outcome table of simple moderation analysis executed with the PROCESS macro of Hayes (2012) (N = 263).*

Outcome variable: Technology acceptance (Y)			
	β	SE	95% CI
Change fatigue – Technology acceptance (a1)	-.21**	.6	[-.31, -.10]
POS – Technology acceptance (a2)	-.08	.12	[-.31, .15]
Change fatigue * POS – Technology acceptance (a3)	.08*	.04	[.01, .16]
<i>Model Summary Total:</i>	$R^2 = .14$, $F(3, 259) = 14.6$, $p < .01$.		

Note. * $p < .005$, ** $p < .01$.

When looking at the R^2 change, the addition of the interaction was a significant change to the model ($F(1,259) = 11.26$, $p = .03$, R^2 change = .02). To look deeper into the moderating relationship of POS, the conditional effects of the predictor change fatigue at three values of the moderator POS on the dependent variable technology acceptance are shown in figure 3. First, for low POS, there was a significant negative relationship between change fatigue and technology acceptance ($\beta = -.30$, $SE = .06$, $95\% CI [-.42, -.18]$). Second, for average POS, a significant and negative relationship between change fatigue and technology acceptance was found also ($\beta = -.20$, $SE = .06$, $95\% CI [-.31, -.10]$). Third, for high POS, no significant relationship between change fatigue and technology acceptance was found. The low, mean and high bounds indicate that the less an employee perceives organizational support, the more negative influence change fatigue has on technology acceptance. Likewise, the more an employee perceives organizational support, the less influence change fatigue will have on technology acceptance. In conclusion, POS moderates the relationship between change fatigue and technology acceptance, by reducing the negative effect change fatigue has on technology acceptance.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

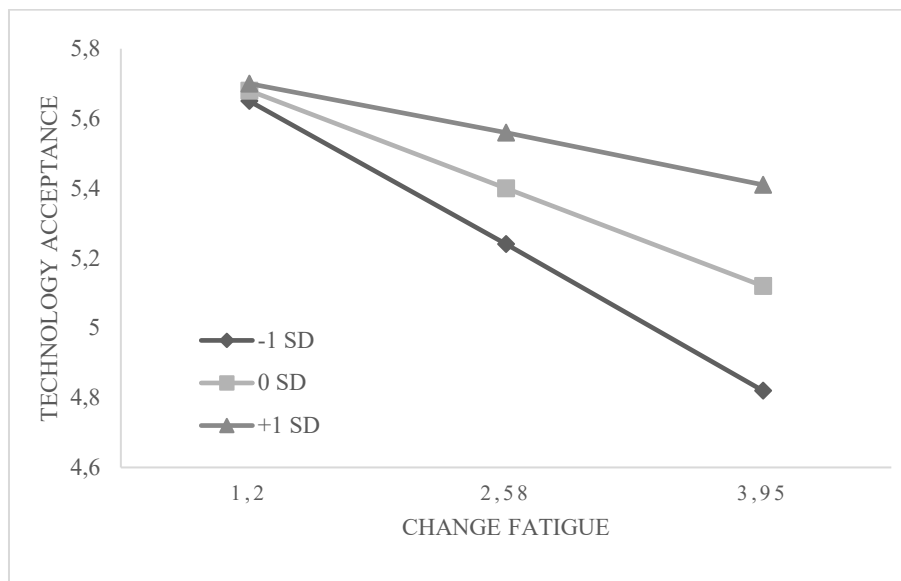


Figure 3. Simple slopes of the relationship between change fatigue (X) and technology acceptance (Y) at 3 points along the scale of POS (W). Using the conventional “pick-a-point” approach; See Hayes (2018).

Discussion

In working life, employees will have to deal more with (new) technology. Technological innovation is expected to create more productive and efficient employees (Schwab, 2017), however previous research shows that not accepting new technology will cost money and can be at the expense of productivity (Weir, 2013). In addition, it can have consequences for the well-being of the employee (Ter Hoeven et al., 2016). Current research looked at technological innovations within a Dutch retail giant, where a new HR administrative application was implemented. In Human Resources, technological innovations will play an increasing role (Johnson et al., 2016) and this research therefore adds valuable knowledge to the consequences of implementing new technology within HR. This study provides insight into the relationship between change fatigue and the degree to which technology is accepted and what the moderating role of perceived organizational support is in this. In addition, this study offers the first insight into the relationship between change fatigue and well-being outcomes, such as technology engagement and technostress, and looks at the mediating role of technology acceptance in this.

Theoretical implications

This study is the first to link literature on technology acceptance, derived from the technology acceptance model (Davis, 1989; Davis et al., 1989), to the JD-R model and research those constructs related to technology use. Tarafdar, Cooper, & Stich (2019) are a recent example of interdisciplinary theoretical enrichment. In their research about what they call the technostress trifecta, they examine techno eustress, techno distress and offer a new research framework for guiding future research in technostress. They concluded that the studies regarding technostress often include concepts from the psychological stress literature, however, related insights are failed to be incorporated into the understanding of psychological stress. In line with their research, we tried to incorporate psychological stress theory to enrich the theory of technostress and show the importance of interdisciplinary theoretical enrichment.

The current study aimed to contribute the literature in a number of ways. Firstly, it shed a light on the underexposed positive well-being outcomes related to technology use. Showing the importance of employees accepting new technologies and how that could not only lead to less stress but also aspects of (technology) engagement. Secondly, we made a connection between different subjects in research about technology use. In the current study, technology acceptance was used as a mediator and linked to research about employee well-being. Thirdly,

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

this research explored the role of perceived organizational support as a moderating construct between change fatigue and technology acceptance. All forms of social support are still underexposed in research regarding technology use, so this research shows the added value of social support related to technology use.

Change fatigue, perceived organizational support and technology acceptance. Our study contributes to the literature by showing that technology acceptance and well-being outcomes are related to specific technology-related demands and resources (Ter Hoeven et al., 2016). In line with the hypothesis, we found that change fatigue was directly and negatively related to technology acceptance. This finding is corresponding with earlier research from Jeffrey (2016) and suggests that employees high in change fatigue will not accept new technology and are likely not intending to use the new technology. The mean of change fatigue for the current study sample was measured to be relatively low ($M = 2.58$, $SD = 1.37$) and this could be explained when comparing the participation group with earlier research. Bernerth, Walker & Harris (2011) and Nguyen Huy (2001) show in their research that change fatigue is expected to be high when the rate of change is perceived as too frequent. MyHR was introduced after the previous software was 25 years in service, so the rate of change was not high at all, also it was replacing an aged but solid software.

This research shows that perceived organizational support (POS) and technology acceptance are not significantly related. Although this relationship was not hypothesized, it is interesting to discuss, because prior research could make you assume otherwise. Masood & Lohdi (2016) come to the conclusion in their research that social support is of greater importance than specific knowledge of software when looking at participants' intentions to use a program. Based on their finding, it would seem rational to find a direct relationship between POS and technology acceptance. Because technology acceptance and behavioral intentions are similar constructs, a significant relationship between POS and technology acceptance would seem likely. Interestingly this relationship was not found in this study.

Furthermore, in line with the hypothesis, this study showed a significant interaction effect with POS as a moderator in the relationship between change fatigue and technology acceptance. As hypothesized this finding was in line with the expectations which were built on research from Salanova et al. (2013) and theory on the JD-R model. Salanova et al. (2013), found that social support and change fatigue are negatively related. Furthermore, the JD-R model depicts that social support can be seen as a work-related resource and (change) fatigue as a work-related demand (2014). Based on the little research existing we argued that POS

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

would function as a buffer to reduce the negative relationship between change fatigue and technology acceptance, and based on the sample group this was found to be correct. In sum, the results were in line with previous studies and the hypotheses. A notable result was that POS was not found to be directly related to technology acceptance, but functioned merely as a buffer in the relationship between change fatigue and technology acceptance. The current study adds the importance of change fatigue and social support in relation to technology acceptance, to create a broader understanding of technology acceptance.

Technology acceptance, technology engagement and technostress. The current study is the first to link the concept of technology acceptance to technology-related well-being outcomes. As displayed earlier on in this thesis, technology acceptance is a thoroughly researched concept, and this study shows the importance of technology acceptance in the theoretical framework of well-being while working with technological innovations. By including technology acceptance, this study expands existing research done by ter Hoeven et al. (2016) who already researched work-related burnout and work engagement in their study. However, we chose to research more specifically technology-related outcomes instead of work-related outcomes. We expected the results to be in line with their research because technology-related well-being outcomes are defined from the JD-R theory they used in their research but adjusted to fit technology use (Bakker, Demerouti, & Sanz-Vergel, 2014b; Salanova et al., 2013; Schaufeli et al., 2006). Our findings contribute to the literature by showing that employees who are accepting technological innovations, do not only show a lack of (techno)stress but experience positive technology-related outcomes. This study is the first to show with empirical evidence that there is an important antithesis to technostress. Both relationships between technology acceptance and the well-being outcomes were significant. Furthermore, the beta value for the regression of technology acceptance on technology engagement ($\beta = .59$) was more than twice as high as the beta value of the regression of technology acceptance on technostress ($\beta = -.22$). These values display that for the sample of the current study, technology acceptance explained more of the variance in technology engagement than technostress, but obviously, there needs to be done more research to follow-up our study.

Our findings confirm that technology acceptance and technostress have a negative relationship. We took the concept of technology acceptance and reviewed it in a context other than the TAM. This study shows the effect of not accepting technological innovations and the effect it could have on employee well-being. These findings build on studies that indicated that the use of technologies can lead to negative feelings of stress (Brod, 1984; Salanova et al., 2007;

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Salanova et al., 2014; Wang et al., 2008) and can have negative consequences for the well-being of employees. In short, technology acceptance seems to have important relations with technology-related well-being outcomes for employees. Technology acceptance is a vital construct in the mediation between technology-related demands or resources and well-being outcomes.

Practical implications

The current thesis was written to provide useful information for the European HR project management team of a Dutch retailer. As the HR project managers will implement new technologies they could use the insights of this study to be more thoughtful of the importance of their employees accepting new technologies, but also of the well-being of their employees. This study showed us that change is not a bad thing, but it is vital how the change is perceived by individuals. We've learned that the rate of change should not be too frequent (Bernierth et al., 2011; Nguyen Huy, 2001), professionals must make sure the change is perceived as successful and depends on the understanding of the change process by the employees (McElroy, 1996). The results of the questionnaire show us that employees at the retailer perceive little to no change fatigue, so obviously, this is going well for them at the moment. Although as technological innovations increase as technologies are getting rapidly better, the Dutch retail giant should not implement new technologies at that same high rate, and if they do, create a good understanding of why the change is implemented.

In 2020 a new and more complicated HR software will be implemented at the Dutch retail giant. The results of this study have shown that perceived organizational support can be used as a buffer to reduce the negative effects of change fatigue. First, to increase the POS, the retail giant should be reachable for the user of new technology whenever they need help. Good customer service is important which should respond in a reasonable amount of time, for instance within a couple of days. Second, recent research by Eisenberger, Rhoades, Shanock, & Wen (2020) shows that fairness and leader support are important antecedents of POS. Fairness can be divided into three types: distributive, procedural, and interactional. Studies showed that procedural justice is the most relevant type of fairness concerning POS (Kurtessis et al., 2017b; Rhoades & Eisenberger, 2002). This type of justice mostly concerns an organization's control over the 'procedures involved in resource distributions (including rewards and human resource benefits)' (Eisenberger et al., 2020). The retail giant could consider a pay-raise for the new

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

technology user or invest in training the managers, who in turn are responsible for training their employees below them.

Limitations and future research

A number of limitations must be acknowledged. First of all, the total number of participants we've managed to gather was relatively low. The e-mail with the invitation to fill out the questionnaire reached approximately 1320 suitable participants and of those, regardless of the number of people who actually read the e-mail, only one third started the survey. After removing participants who did not finish the survey and removing outliers, only 263(20%) participants remained. Although the n-value was still high and considered strong, the current sample might not be a correct reflection of the target group.

In addition, the means and standard deviations of the variables were relatively high or low. All variables were left or right-skewed and none of the variables complied with the assumption of normality. More specifically, technostress was exceptionally low, POS and technology engagement was relatively high. One explanation could be related to participation being voluntary, possibly creating a selection bias and causing the more engaged employees to respond. Another explanation lies in the fact that the questionnaire was digital, and employees who are already more engaged with technology might be more likely to respond, resulting in a low mean of technostress and a high mean of technology engagement. Thirdly, MyHR was custom made and designed to make HR work easier. The respondents could be biased by the old software and unconsciously keep comparing it to MyHR, resulting in a relatively low-stress score and high engagement score. Future research should aim to study a new technology that is more controversial and comparable to older software that employees are used to.

Also, another limitation was the amount of time between the release of the old and the new HR software, which was 25 years. In order to get a good picture of change fatigue, it is desirable that more change takes place than was the case with the retailer in this study. This large gap between releases could explain the relatively low average of change fatigue. Besides future research, it could be interesting to measure both change fatigue in general regarding the company, work, etc., and change fatigue regarding technologies and innovations. The current research measured change fatigue regarding companywide changes, making it impossible to make precise predictions about technological change fatigue.

The current study gathered it's data with an electronic survey. This was the best method to gather as much data as possible, as quickly as possible, being easy to use for students and

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

having no additional cost (Nayak & Narayan, 2019). However, because all the variables were obtained with a single online survey, and measured in the same context, we did not control for and face concerns about common-method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This common-method bias might have influenced the results, and correlations might be inflated (Williams & Brown, 1994). Future research should consider collecting data through multiple sources.

The last limitation that we want to mention is about the design. The design of the study was cross-sectional, thus only correlations between variables are found. Future research should consider a longitudinal design, so the assumption can be made about causal relationships between variables.

References

- Ace, W., & Parker, S. (2010). Overcoming change fatigue through focused employee engagement. *OD Practitioner*, 42(1), 21-25.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. *Action control* (pp. 11-39) Springer.
- Ashbaugh, S., & Miranda, R. (2002). Technology for human resources management: Seven questions and answers. *Public Personnel Management*, 31(1), 7-20.
- Bahl, A., & Dietzen, A. (2019). Work-based learning as a pathway to competence-based education. *Management*,
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014a). Burnout and work engagement: The JD–R approach.
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014b). Burnout and work engagement: The JD–R approach.
- Bernerth, J. B., Walker, H. J., & Harris, S. G. (2011). Change fatigue: Development and initial validation of a new measure. *Work & Stress*, 25(4), 321-337.
doi:10.1080/02678373.2011.634280
- Bertram, D. (2007). Likert scales. *Retrieved November, 2, 2013*.
- Biro, M. (2018). 5 ways technology is changing the face of HR. Retrieved from <https://talentculture.com/5-ways-technology-is-changing-the-face-of-hr/>

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

- Brod, C. (1984a). *Technostress: The human cost of the computer revolution* Reading, MA: Addison-Wesley.
- Brod, C. (1984b). *Technostress: The human cost of the computer revolution* Addison Wesley Publishing Company.
- Brynjolfsson, E., & McAfee, A. (2011). *Race against the machine: How the digital revolution is accelerating innovation, driving productivity, and irreversibly transforming employment and the economy* Brynjolfsson and McAfee.
- Caro, D. H., & Sethi, A. S. (1985). Strategic management of technostress. *Journal of Medical Systems*, 9(5-6), 291-304.
- Cheng, E. W. (2019). Choosing between the theory of planned behavior (TPB) and the technology acceptance model (TAM). *Educational Technology Research and Development*, 67(1), 21-37.
- Chu, T., & Chen, Y. (2016). With good we become good: Understanding e-learning adoption by theory of planned behavior and group influences. *Computers & Education*, 92, 37-52.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, , 319-340.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.
- Demerouti, E., & Bakker, A. B. (2011). The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology*, 37(2), 1.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*(3), 500.
- Eisenberger, R., Rhoades Shanock, L., & Wen, X. (2020). Perceived organizational support: Why caring about employees counts. *Annual Review of Organizational Psychology and Organizational Behavior, 7*, 101-124.
- Halbesleben, J. R., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management, 30*(6), 859-879.
- Hsiao, H., Tu, Y., & Chung, H. (2012). Perceived social supports, computer self-efficacy, and computer use among high school students. *Turkish Online Journal of Educational Technology-TOJET, 11*(2), 167-177.
- Hu, P. J., Chau, P. Y., Sheng, O. R. L., & Tam, K. Y. (1999). Examining the technology acceptance model using physician acceptance of telemedicine technology. *Journal of Management Information Systems, 16*(2), 91-112.
- Jeffrey, D. A. (2016). *Testing the technology acceptance model 3 (TAM 3) with the inclusion of change fatigue and overload, in the context of faculty from seventh-day adventist universities: A revised model* Available from Social Science Premium Collection. Retrieved from <https://search.proquest.com/docview/1844148382>
- Johnson, R. D., Lukaszewski, K. M., & Stone, D. L. (2016). The evolution of the field of human resource information systems: Co-evolution of technology and HR processes. *Communications of the Association for Information Systems, 38*(1), 28.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017a). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of Management*, *43*(6), 1854-1884.
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017b). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of Management*, *43*(6), 1854-1884.
- Lee, Y., Roh, S., Donahue, S., Lee, K., & Kim, S. (2018). Technology acceptance among american indian older adults. *Innovation in Aging*, *2*(Suppl 1), 169.
- Llorens, S., Salanova, M., & Ventura, M. (2011). Guías de intervención: Tecnoestrés. *Madrid España, Editorial Síntesis*,
- Ma, W. W., & Yuen, A. H. (2005). Comparing four competing models in e-learning system acceptance. *Managing Modern Organizations through Information Technology*, , 568-571.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397-422.
- Masood, A., & Lodhi, R. N. (2016). Determinants of behavioral intentions to use SPSS among students: Application of technology acceptance model (TAM). *FWU Journal of Social Sciences*, *10*(2), 146.
- McElroy, W. (1996). Implementing strategic change through projects. *International Journal of Project Management*, *14*(6), 325-329.
- McLeod, S. (2019). Likert scale definition, examples and analysis. Retrieved from <https://www.simplypsychology.org/likert-scale.html>

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

- Mike, S. (2019). How is human resources evolving with technology? Retrieved from <https://www.hrtechnologist.com/articles/digital-transformation/how-is-human-resources-evolving-with-technology/>
- Moyle, P., & Parkes, K. (1999). The effects of transition stress: A relocation study. *Journal of Organizational Behavior*, 20(5), 625-646.
- Nayak, M., & Narayan, K. A. (2019). Strengths and weakness of online surveys. *IOSR Journal of Humanities and Social Science*, 24(5), 31-38.
- Ndubisi, N. (2006). Factors of online learning adoption: A comparative juxtaposition of the theory of planned behaviour and the technology acceptance model. *International Journal on E-Learning*, 5(4), 571-591.
- Nguyen Huy, Q. (2001). Time, temporal capability, and planned change. *Academy of Management Review*, 26(4), 601-623.
- O'Brien, H. L., & Toms, E. G. (2008). What is user engagement? A conceptual framework for defining user engagement with technology. *Journal of the American Society for Information Science and Technology*, 59(6), 938-955.
- Parameswaran, S., Kishore, R., & Li, P. (2015). Within-study measurement invariance of the UTAUT instrument: An assessment with user technology engagement variables. *Information & Management*, 52(3), 317-336.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Preacher, K., & Leonardelli, G. (n.d.). Calculation for the sobel test. Retrieved from

<http://quantpsy.org/sobel/sobel.htm>

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology, 87*(4), 698.

Salanova, M., Llorens, S., Cifre, E., & Nogareda, C. (2007). Technostress: Concept, measurement, and prevention. *Notatechia De Prevencion, 730*

Salanova, M., Llorens, S., & Cifre, E. (2013). The dark side of technologies: Technostress among users of information and communication technologies. *International Journal of Psychology, 48*(3), 422-436. doi:10.1080/00207594.2012.680460

Salanova, M., Llorens, S., & Ventura, M. (2014). Technostress: The dark side of technologies. *The impact of ICT on quality of working life* (pp. 87-103) Springer.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*(4), 701-716.

Schaufeli, W., Salanova, M., González-romá, V., & Bakker, A. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies, 3*(1), 71-92. doi:1015630930326

Scherer, R., Siddiq, F., & Tondeur, J. (2019). The technology acceptance model (TAM): A meta-analytic structural equation modeling approach to explaining teachers' adoption of digital technology in education. *Computers & Education, 128*, 13-35.

Schwab, K. (2017). *The fourth industrial revolution* Currency.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

- Sutton, R. I., & Kahn, R. L. (1987). Prediction, understanding, and control as antidotes to organizational stress. *Handbook of Organizational Behavior*, 272(1), 285.
- Tarafdar, M., Cooper, C. L., & Stich, J. (2019). The technostress trifecta - techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal*, 29(1), 6-42.
- Ter Hoeven, C. L., van Zoonen, W., & Fonner, K. L. (2016). The practical paradox of technology: The influence of communication technology use on employee burnout and engagement. *Communication Monographs*, 83(2), 239-263.
doi:10.1080/03637751.2015.1133920
- Trehan, A. (2019). Role of technology in the HR industry. Retrieved from <https://www.entrepreneur.com/article/336722>
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315. doi:10.1111/j.1540-5915.2008.00192.x
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, , 425-478.
- Wang, K., Shu, Q., & Tu, Q. (2008). Technostress under different organizational environments: An empirical investigation. *Computers in Human Behavior*, 24(6), 3002-3013.
- Weir, K. (2013). More than job satisfaction: Psychologists are discovering what makes work meaningful--and how to create value in any job.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Williams, L. J., & Brown, B. K. (1994). Method variance in organizational behavior and human resources research: Effects on correlations, path coefficients, and hypothesis testing. *Organizational Behavior and Human Decision Processes*, 57(2), 185-209.

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 & Organisationspsychologie 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 & Organisationspsychologie Universiteit Utrecht

Appendix 2: Facebook reminder text

Beste collega's,

Help een collega afstuderen & vul de vragenlijst in!

Zoals jullie allemaal weten hebben we afscheid genomen van ons oude vertrouwde programma Medewerkers (RFPG). Hiervoor is MyHR in de plaats gekomen, wat voor sommigen van jullie misschien nog even wennen is.

Voor mijn studie aan de Universiteit Utrecht en voor het MyHR Projectteam doe ik onderzoek naar jullie ervaringen met het gebruik van dit nieuwe systeem.

Wat wordt er met je antwoorden gedaan?

Alle antwoorden zullen anoniem en vertrouwelijk behandeld worden. De resultaten zullen alleen gebruikt worden voor dit onderzoek.

Mocht je de vragenlijst nog niet hebben ingevuld, vul de vragenlijst dan hier in! Het kost nog minder dan 10 minuutjes van je tijd!

Alvast heel erg bedankt!

Bart Veling

Teamleider Albert Heijn Utrecht & Stagiair Projectteam Ahold Delhaize

Appendix 3: Questionnaire

Part one: Background questions

1. **Wat is uw geslacht?**
 - Man
 - Vrouw
2. **Wat is uw leeftijd in jaren?**

... jaar.
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?**

... jaar.
6. **Hoeveel jaar bent u al werkzaam bij uw huidige werkgever?**

... jaar.
7. **Hoeveel uur werkt u per week?**

... uur.

Part two: MyHR

1. **Hoeveel maanden werkt u al met MyHR?**

... maanden.
2. **Hoe vaak maakt u gebruik van MyHR?**
 - Helemaal niet

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

- 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 (in uren) besteedt u gemiddeld per week aan het werken met MyHR?

... uur.

Part three: Technostrain

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: 1 = helemaal mee oneens, 2 = mee oneens, 3 = enigszins mee oneens, 4 = niet eens, niet oneens, 5 = enigszins mee eens, 6 = mee eens, 7 = 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.**

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

Antwoordschalen: 1 = nooit, 2 = sporadisch, 3 = af en toe, 4 = regelmatig, 5 = dikwijls, 6 = zeer dikwijls, 7 = altijd.

Skepticism (items 1 – 4), Fatigue (items 5 – 8), Anxiety (items 9 – 12), Ineffectiveness (items 13 – 16).

Part four: Technology acceptance

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.

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: 1 = helemaal mee oneens, 2 = mee oneens, 3 = enigszins mee oneens,

4 = niet eens, niet oneens, 5 = enigszins mee eens, 6 = mee eens, 7 = helemaal mee eens.

Part five: Change Fatigue

Geef aan in hoeverre u het eens bent met de volgende stellingen:

1. **Ik ben verandering bij Albert Heijn moe.**
2. **Ik ben veranderingen in HR systemen bij Albert Heijn moe.**
3. **Bij Albert Heijn worden we te vaak gevraagd om dingen te veranderen.**
4. **Bij Albert Heijn worden te veel veranderingsinitiatieven geïntroduceerd.**

Antwoordschalen: 1 = helemaal mee oneens, 2 = mee oneens, 3 = enigszins mee oneens,

4 = niet eens, niet oneens, 5 = enigszins mee eens, 6 = mee eens, 7 = helemaal mee

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

eens.

Part six: Organizational Support

Geef aan in hoeverre u het eens bent met de volgende stellingen:

1. **Als ik een probleem heb, is er hulp vanuit Albert Heijn beschikbaar.**
2. **Albert Heijn geeft echt om mijn welzijn.**
3. **Albert Heijn is bereid om mij te helpen wanneer ik een speciale gunst nodig heb.**
4. **Albert Heijn bekommert zich over mijn algemene tevredenheid over mijn werk.**
5. **Albert Heijn houdt rekening met mijn mening.**
6. **Albert Heijn probeert mijn werk zo interessant mogelijk te maken.**

Antwoordschalen: 1 = helemaal mee oneens, 2 = mee oneens, 3 = enigszins mee oneens,

4 = niet eens, niet oneens, 5 = enigszins mee eens, 6 = mee eens, 7 = helemaal mee eens.

Part seven: Technology 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: 1 = nooit, 2 = sporadisch, 3 = af en toe, 4 = regelmatig, 5 = dikwijls, 6 = zeer dikwijls, 7 = altijd.

THE ROLE OF CHANGE FATIGUE IN TECHNOLOGY ACCEPTANCE

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