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ICT in Business

**Evaluating the influence of employee intention to
adopt the digital workplace using UTAUT2 and
Generational Cohort Theory:
The Case of Telkom Indonesia**

Name: Dessy
Student-no: 1534319

Date: 26/07/2016

1st supervisor: Dr. Hans LeFever
2nd supervisor: Dr. Steve Foster

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Leiden Institute of Advanced Computer Science (LIACS)
Leiden University
Niels Bohrweg 1
2333 CA Leiden
The Netherlands

Abstract

This research explores whether employees, by their behaviour, indicate their intentions to accept digital workplace technology. Through the application of the technology acceptance model known as UTAUT 2 (Unified Theory of Acceptance and Use of Technology 2), it evaluates how different generations influence the relationship between an employee's formative years and his or her intentions to use that technology. It also explores the drivers that could leverage or inhibit an employee to use digital workplace technology. In a survey amongst 155 employees of a telecommunication firm in Indonesia, the impact of a generation's experiences and values on the UTAUT 2 constructs (such as performance expectancy, effort expectancy, social influence, and facilitating conditions complemented by hedonic motivation and habit) are analysed using PLS-SEM (Partial Least Squares Structural Equation Modelling). The factors that stimulate or hold back employees from using digital workplace technology are also examined.

The findings highlight the fact that the GFR (generational formative referents) factor has a significant influence on the employee's acceptance factors that are incorporated in UTAUT 2. Employees indicate 'habit' and 'performance expectancy' as the two most influential reasons for adopting digital workplace technology. However, the power of hedonic motivation seems to negatively influence an employee's behaviour. Consistent with generation cohort theory, three generations—Baby Boomers, Generation X, and Generation Y—have their own reasons for adopting digital workplace technology. Baby Boomers perceive the facilitating condition from the organisation and habit as the most important drivers, while Generation X is more influenced by habitual use of technology in the digital workplace. On the other hand, Generation Y is influenced by the realisation that enhanced performance at work affects them in important ways.

The results provide proof that a generational analysis is also applicable to South East Asian countries, whereas previous studies were carried out mostly amongst the American population. The research indicates that there exists a positive relationship between generational theory and UTAUT 2. These findings demonstrate that it is beneficial for organisations to include the drivers that are significant for each generation at the workplace so that employee acceptance of digital workplace

technology can be better managed and facilitated. In other words, an organisation needs to gear its policies in specific ways to promote acceptance of technology amongst particular generations.

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List of Abbreviations

| | |
|---------|--|
| DWP | : Digital Workplace |
| EE | : Effort Expectancy |
| FC | : Facilitating Conditions |
| GCT | : Global Cohort Theory |
| GFR | : Generational Formative Referents |
| H | : Habit |
| HM | : Hedonic Motivation |
| ICT | : Information and Communication Technology |
| ISDN | : Integrated Services Digital Network |
| IT | : Information Technology |
| LAN | : Local Area Network |
| MGA | : Partial Least Squares – Multi Group Analysis |
| PE | : Performance Expectancy |
| PLS-SEM | : Partial Least Squares – Structural Equation Modeling |
| TAM | : Technology Acceptance Model |
| UTAUT | : Unified Theory of Acceptance and Use of Technology |
| UTAUT 2 | : Unified Theory of Acceptance and Use of Technology 2 |
| VPN | : Virtual Private Network |
| WAN | : Wide Area Network |

Chapter 1: Introduction

Problem statement

It is interesting that several studies have revealed the contradictory findings about employee attitudes in the workplace in relation to the particular generation that was being examined (Tolbize, 2008). The first study presumed that different generations manifest diverging perspectives in a workplace shaped by shared events (Zemke, Raines, & Filipczak, 2000). In contrast, other studies found that employee needs and aspirations are more or less generic; those studies separated results according to an employee's life cycle or career stage (Jorgensen & Bradley, 2003; Jurkiewicz & Brown, 1998; Yang & Guy, 2016).

As research into the normal working environment has shown, the digital workplace, an emerging workplace model, can be viewed from the same perspective by various generations and is probably not influenced by the employee's adult experiences. Previous research has used generational cohort theory (GCT) to stress the fact that different values and events shape a generation (Ryder, 1965) and influence how it uses such technology as teleconferencing, particularly in virtual and hybrid meetings (Sox, 2014). The characteristics inherent in virtual meetings also trigger researchers' curiosity to see whether generational perspectives have an impact on an employee's intention to use digital workplace technology and to employ such technological advancements as online communication, video streaming, and desktop video conferencing (which facilitate connectivity), tele-presence, haptic technology, and display technologies (J. Benson & Brown, 2011 and Dixon & Behringer, 2012).

Previous researchers conducted a qualitative assessment in order to gather information about the frequency that telecommuting is adopted (Stephens & Szajna, 1998). In addition, the technology acceptance model (TAM) has been used to analyse employee acceptance of teleconferencing systems (Park, Rhoads, Hou, & Lee, 2014). Unfortunately, not many studies, which use UTAUT 2 to investigate generational differences have been conducted in regard to the digital workplace. Thus, this study argues that generational differences also influence an employee's acceptance of the

technology being used in the digital workplace, and particularly in the telecommunication industry.

While some studies on the digital workplace focused on the perceived value of working from a distance for the employee (Stephens & Szajna, 1998), only a few of them have paid attention to how differing generational perspectives impact digital workplace technology in the telecommunication sector. The same is true about generational differences in the workplace (Delucia, 2015).

Moreover, many researchers have studied generation theory for decades, yet most of the research has been carried out in relation to western countries. The applicability of the generational cohort concept is still being questioned as to its relevance to other populations (such as Asian cultures). A few researchers have used generation similarity theory to analyse the similarities between Asian and western generations, and have assessed attitudes amongst the Taiwanese, Japanese, Indian and Chinese populations (Codrington, 2011). However, it should be noted that the application of generational theory takes time, and further studies should be undertaken in a manner that enables researchers to avoid the trap of being dazzled by ethnographic complexity. Different countries experience different events in a differing manner; therefore, cross-cultural studies that take into account generational differences should be undertaken, and should particularly examine the impact of those differences on the intention of the individual to use technology (Sox, 2014).

Purpose of the research

This study complements previous research by focusing on the tools that facilitate the effective implementation of a digital workplace environment. Aiming to investigate the influence of GCT on UTAUT 2, this research aims to answer the following question:

"According to UTAUT 2 constructs, to what extent do an employee's experiences from their respective formative years affect the acceptance of the digital workplace?"

The previous central question can be investigated by raising the following sub-questions:

- Are there any discrepancies between generational cohorts in adopting the technology for the digital workplace?
- What are the primary drivers for each employee and each generation to work in the digital workplace?

Significance of the research

This study aims to investigate the relationship between generational formative years and an employee's behaviour in digital workplace, particularly in terms of how digital technology is used as a tool connecting the company's intranet with an employee's digital environment. Additionally, the findings substantially support the application of generational cohort theory to the telecommunication sector. To some extent, thinking about an employee's formative years and their impact on the individual also provide a different perspective on technology in regard to the digital workplace.

Although this study has been undertaken from an academic perspective, it has practical implications; for example, organisations may take advantage of the results by adopting a digital workplace technology enabler model to facilitate a better way of implementing policies in a manner that is a 'best fit' for a particular organisation and its employees. Employers may use the information from this study to leverage employee satisfaction in a digital workplace arrangement. Furthermore, the results of this study could be beneficial in creating a strategy that will enhance employee engagement in a manner that takes into consideration all the generations present in the workplace.

This paper is organised as follows: First, a discussion will take place about current workplace arrangements and will present theories related to the generations represented at that workplace. Next, a literature review related to previous research about technology acceptance and the generational formative referents (GFR) will be presented. This will be followed by an exposition of the findings of the tested proposition: Model analyses are then presented and discussed. Subsequently, the paper will examine the practical implications of the research and its findings and limitations. Finally, suggestions for further research will be offered.

Chapter 2: Literature review

The digital workplace

One characteristic of work is that it no longer has to involve a destination. It is also not limited to a particular timeframe, such as from 9:00 to 17:00 (Marsh & Miller, 2014). All of this is due to the emergence of the digital workplace. The digital workplace arrived as a new style of working, one that is comprehensive, contagious, cross-enterprising, interconnected, and comprehensible. In line with these characteristics, the digital office should also be adaptive, compliant, imaginative, predictive, and location independent (White, 2012).

The digital workplace involves two main elements, namely employees and information technology. It connects employees with information technology (IT), including computers and, by Internet access, connects the workplace to the outside world and to a professional network (A. D. Benson, Johnson, & Kuchinke, 2002). Computers and Internet access are classified as the enablers for the digital workplace, as are mobile communication, virtual private networks (VPNs), and integrated services digital networks (ISDN)—all of which facilitate access from home and at the small cost of a home workstation. The employee acts as the working individual behind that hardware and software, and s/he will execute their tasks and their jobs through the particular platform provided by the organisation.

Digital workplace technology

The main focus of this study is on the connector between the employee and the corporate intranet. Various practices are widely known to make a company's network accessible from remote sites. Previously, digital workplaces were made accessible through local area networks (LANs) and wide area networks (WANs); both types of networks were incorporated into digital workplaces and were crucial in terms of facilitating an employee's ability to access data from the database, to send and receive e-mails, to download and update corporate bulletins, and to transfer reports from wherever they were sitting, as long as they were in front of a computer placed in the business office (Tung & Turban, 1996).

The second common fashion of communication is through a connector, which provides remote access over the Internet: By means of a certain configuration, a special desktop is dedicated to being controlled from the outside. This kind of configuration needs a standby desktop and another computer, which acts as the caller and dictates to the dedicated desktop actions that the employee wishes to perform. In the same vein, the reliability of the virtual private network (VPN) has made it the most popular corporate connector nowadays. It redraws geographical boundaries by deploying connectivity via the public Internet and has similar security and performance as a private network. Once the VPN connection has been successfully created, remote workers can access the required resources via their corporate intranet.

The aforementioned technology constitutes the major part of the digital workplace provided by information technology (IT). Furthermore, there are a number of significant capabilities promoted by the digital workplace which favour the potential that IT has to offer. Firstly, IT provides global connectivity, thus enhancing business opportunities. A lean organisation advocates the use of flexible data access for standard data and message distribution; different files can be used to work together on the same document. Secondly, IT promotes a collapse of time and distance, which means that there will be no 'floating time' in business activities due to absolute information necessity. Eventually, the displacement of time comes as the last advantage. The simultaneous presence of two or more staff members working for the same organisation is accommodated through computer storage that facilitates an information exchange that can be accessed at different times and from different locations (Skyrme, 1994).

The advantages of the digital workplace

Working outside the company's premises obliges employees to have access to an internal network. There are several solutions provided by the advancement of technology, but the most common one is the availability of the virtual private network (VPN). Commonly, a company embeds the VPN inside a single website page as a gateway enabling access into the intranet by means of a particular credential. A VPN is a technology that allows private networks to be accessed via a public network, which is considered to be a less secure network. The connection to the secured network facilitates sending and receiving data operations across shared or public

networks, and it has the functionality, security, and management policies of a private network (Mason, 2004).

The significance of the digital workplace has been studied for decades from both sides—the employee's and the organisation's. From the employee's point of view, s/he is nowadays entering a 'virtu-commutes' environment (Beyrouti, 2006). Virtualisation is inevitable and has positive and negative impacts on an organisation, the work environment, and personal lives. A digital workplace can break down the barriers to communication, which becomes direct and instantaneous and which expands to cover one-to-one primary traditional communication practices up to one-to-many or even many-to-many simultaneous communications. Digital workplaces provide a seamless experience for employees who seek to access a company's network wherever and whenever they want, all through the existence of an Internet connection.

Working within a digital workplace also promotes other benefits, such as the flexibility to work in a time where an employee is most productive; in addition, the reduction or even elimination of time spent commuting has a positive impact on stress levels, lowers frustration, and saves on costs related to transportation. However, the digital workplace also introduces boundary permeability, because it renders the employee subject to the phenomenon of 'out of sight and out of mind', thus facing possible social isolation anxiety. In other words, the digital workplace has positive and negative impacts on an employee's life.

From the company's point of view, the digital workplace also provides significant benefits. It reduces labour costs because the company can hire employees from whatever location the skills are available and at a competitive price. Office costs are also reduced through the use of a digital workplace since, by reducing the number of desks for employees, it allows a company to minimise office occupancy costs per employee. Moreover, a company enjoys the positive effect of obtaining a nearly real-time response and faster task completion by enabling its employees to work remotely, which greatly increases productivity. By enhancing the flexibility of working place arrangements, a digital workplace reduces employee turnover and promotes an organisation's flexibility.

UTAUT 2

A comprehensive model to identify technology acceptance named UTAUT (Unified Theory of Acceptance and Use of Technology) has four primary constructs (Venkatesh et. al., 2003). This theory confirms that those constructs—namely performance expectancy, effort expectancy, social influence and facilitating conditions—influence people’s behavioural intentions to use the technology being analysed. This technology acceptance model also sets standard definitions for each construct:

- Performance expectancy (PE) is the degree to which using technology will provide benefits to the consumer in performing activities.
- Effort expectancy (EE) involves the level of ease associated with a customer's use of technology.
- Social influence (SI) refers to the extent to which consumers perceive that the important person for them (e.g. family and friends) provides the impetus to use a particular technology.
- Facilitating conditions (FC) describe the customer's perception of the available resources and support to perform the behaviour (Venkatesh, Thong, & Xu, 2012).

The next version of the technology acceptance model after UTAUT was UTAUT 2, which demonstrated more respect for the customer than for an organisation. Three additional variables were incorporated into the UTAUT model, namely hedonic motivation, price value, and habit. It succeeded in providing a substantial improvement in the variance explained by behavioural intention (56% to 74%) and technology use (40% to 52%) (Venkatesh et al., 2012).

The three variables can be explained as follows:

- Hedonic motivation (HM) has been defined as the fun or pleasure derived from using technology (Brown & Venkatesh, 2005).
- Price value is a consumer's cognitive trade off between the perceived benefit of the applications and the monetary cost of using them (Dodds, Monroe, & Grewal, 1991). According to UTAUT 2, price value acts as a predictor. Price value

receives a positive mark when the benefits of using the technology are greater than the cost incurred.

- Habit (H) is a perceptual construct that reflects the results of prior experiences (Venkatesh et al., 2012).

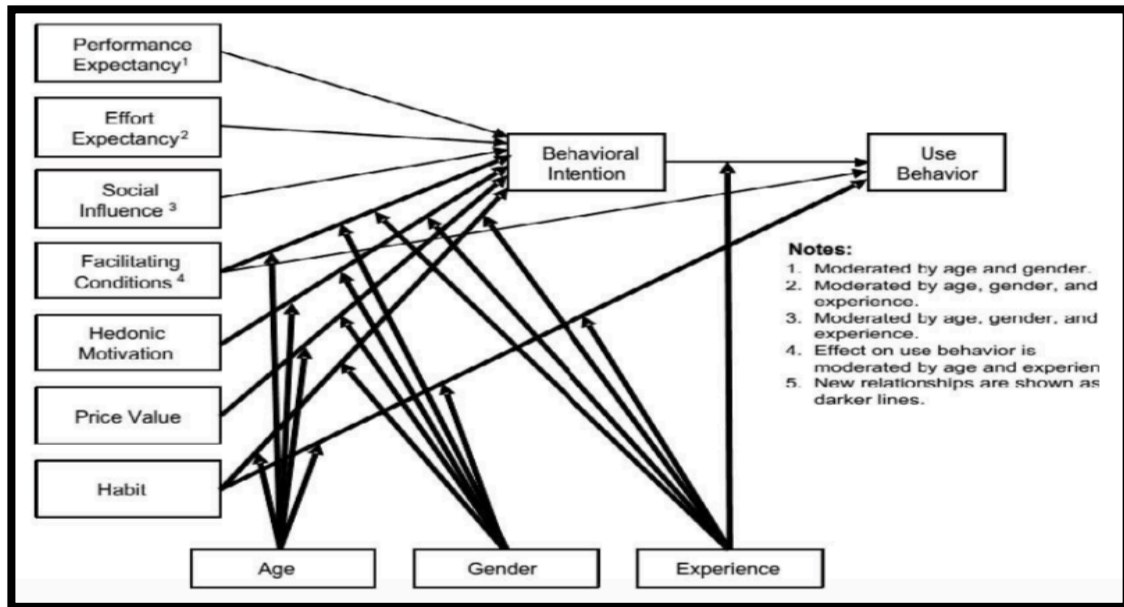


Figure 1: The UTAUT 2 Model

Several sectors researched the validity of technology acceptance theories, but the findings were mixed (see Table 1). Researchers have used technology acceptance models extensively. Regarding the complex individual, technical, and social organisational interplay between user and technology, technology acceptance has been intensely impacted by theories about individual, human, and social behaviour. UTAUT has emerged from a broad range of disciplines, including psychology, sociology, and information technology (Amin & Nayak, 2010). It should be borne in mind that it is very likely that each concept that is introduced will have an impact on the technology acceptance model being considered. For instance, the presence of charismatic leadership was positively associated with user behavioural intention in UTAUT constructs (Neufeld, Dong, & Higgins, 2007). The GCT has been proven to influence users to adopt teleconferencing in the tourism sector (Sox, 2014). Thus, there is an opportunity for assessing the influence of another theory such as generational theory in another field.

| Sector | Subject | Reference |
|------------------|--|---|
| Education | Web-based training | Alrawashdeh, Muhairat, & Alqatawnah (2012) |
| | Blackboard | Sundaravej (2010) |
| | Academic environment | Akbar (2013) |
| Health | Patient care technology | Holden & Karsh (2010) |
| | Health centre community | Kijsanayotin, Pannarunothai, & Speedie (2009) |
| Business | E-banking | Sok Foon & Chan Yin Fah, (2011) |
| | Teleconferencing in tourism | Sox (2014) |
| | New IS in workplace in the public sector | Ouadahi (2008) |
| | Employee recruitment | El Ouiridi, El Ouiridi, Segers, & Pais (2016) |
| | Workforce management system | Coeurderoy, Guilmot, & Vas (2014) |
| Social | Phablets (Phone Tablets) | Huang & Kao (2015) |
| | Family dispute resolution services | Casey & Wilson-Evered (2012) |

Table 1: The application of technology acceptance in previous studies

The first construct of UTAUT 2, performance expectancy, was extensively supported by previous studies. For example, the intention to adopt the information and communication technology (ICT) of a government organisation employee is significantly affected by expectations of better performance (Gupta, Dasgupta, & Gupta, 2008). Consistent with e-government acceptance, people tend to adopt an online shopping system when they consider the perceived usefulness brought by that technology (Lian & Yen, 2014). Another application test of UTAUT upon the workforce management system (WFMS) came with supporting evidence (Coeurderoy et al., 2014). The family dispute resolution services adoption of online services also had a substantial impact on the performance expectancy of the users (Casey & Wilson-Evered, 2012).

The second construct to measure a user's intention to use a technology involved effort expectancy (EE). This variable significantly impacts an employee's willingness to accept the e-government setting (Gupta et al., 2008). The recruiters that were observed clearly realised that a clear understanding of and willingness to make the effort to utilise social media for employee recruitment purposes increased their intention to adopt it (El Ouiridi et al., 2016). Additionally, users of the online family dispute resolution service demonstrated they would have a greater intention to use it if the effort to adopt it was easy (Casey & Wilson-Evered, 2012).

The third construct, social influence (SI), positively impacts an employee's reception of the technology in relation to government management (Gupta et al., 2008); SI also influences potential shoppers to undertake their mission through an online shopping system (Lian & Yen, 2014). A recruiter's intention to use social media in regard to employee recruitment and selection is enhanced when a recruiter's important others suggest employing the system. Students indicate they are going to manifest a decisive intention to use Wiki as a collaborative learning tool if they perceive that a person important to them thinks that this is a good idea (Yueh, Huang, & Chang, 2015).

The fourth acceptance factor, facilitating conditions (FC), was extensively supported by a number of researchers. The adoption by government organisation employees of e-government is significantly affected by the available support from the institution itself (Gupta et al., 2008). Moreover, recruitment and selection through social media is more readily adopted if the company shows its support for the system (El Ouiridi et al., 2016). In addition, learners seem to be more willing to use web-based learning if they recognise that adequate support is available for them when they participate in such a learning system (Alrawashdeh et al., 2012).

The fifth construct, recognised as an additional factor in the first generation of UTAUT, is called hedonic motivation (HM), and this factor was backed by extensive research as well. A study of retailers demonstrated the fact that a feeling of enjoyment and fun enhanced a retailer's intention to accept an online marketing system (Ney, 2012). In line with the retailers, individuals who participated in the phone-tablets (Phablets) adoption study show more willingness to use Phablets when they find that these devices are fun and are more entertaining than a conventional hand phone or tablet (Huang & Kao, 2015). Moreover, instant messenger applications are used more extensively when individuals realise that their hedonic motivation is met when they utilise it (Indrawati & Marhaeni, 2015). When readers find their sense of enjoyment of reading being enhanced while using the relevant digital technology, they demonstrate a greater willingness to make use of e-books (Kit, Ni, Badri, & Yee, 2014).

The last considered construct is habit, and studies in relation to it provide the following evidence: IM users are influenced by their habit to use IM more frequent

(Indrawati & Marhaeni, 2015). Youngsters confirm that habitual use is an important reason to use mobile apps (Kit et al., 2014). Further, readers' addiction to the e-book leads them to have a greater intention to accept that technology (Yee, Qi, Yong, Wee, & Yee, 2015).

| Factor | Author | Year | Research Objectives | Data Collection | Analysis Technique |
|--------------------------------|---|------|--|-----------------|---------------------|
| Performance Expectancy | Gupta et. al. | 2008 | Adoption of ICT in a government organisation | Survey | PLS |
| | Lian and Yen | 2014 | Online shopping drivers | Survey | PLS |
| | Mariam El Ouiridi et. al. | 2015 | Technology adoption in employee recruitment | Survey | PLS |
| | R. Coeurderoy, N. Guilmot and A. Vas | 2014 | Examining factors affecting technological change adoption of WFMS | Survey | Survival analysis |
| | Tristan Casey, Elisabeth Wilson-Evered | 2012 | Predicting drivers for online family dispute resolution (FDR) service adoption | Survey | PLS |
| Effort Expectancy | Gupta et. al. | 2008 | Adoption of ICT in a government organization | Survey | PLS |
| | Mariam El Ouiridi et. al. | 2015 | Technology adoption in employee recruitment | Survey | PLS |
| | Tristan Casey, Elisabeth Wilson-Evered | 2012 | Predicting drivers for online family dispute resolution (FDR) service adoption | Survey | PLS |
| Social Influence | Gupta et. al. | 2008 | Adoption of ICT in a government organisation | Survey | PLS |
| | Lian and Yen | 2014 | Online shopping drivers | Survey | PLS |
| | Mariam El Ouiridi et. al. | 2015 | Technology adoption in employee recruitment | Survey | PLS |
| | Yueh et. al. | 2015 | Factors influence student using Wiki as a collaborative learning | Survey | SEM |
| Facilitating Conditions | Gupta et. al. | 2008 | Adoption of ICT in a government organisation | Survey | PLS |
| | Mariam El Ouiridi et. al. | 2015 | Technology adoption in employee recruitment | Survey | PLS |
| | TA Alrawashdeh | 2012 | Factors affecting acceptance of web-based training system | Survey | SEM |
| Hedonic Motivation | Boris Ney | 2013 | Retailers intention to accept a mobile marketing application | Survey | Regression Analysis |
| | Chi-Yo Huang and Yu-Sheng Kao | 2014 | Examine factors influencing Phone-tablet (Phablet) acceptance | Survey | DNP |
| | Indrawati and Gusti Ayu Made Mas Marhaeni | 2015 | Predicting instant messenger application adoption | Survey | PLS |

| | | | | | |
|--------------|---|------|---|--------|-----|
| | Yee et. al. | 2015 | Determining factor of E-book acceptance | Survey | MLR |
| Habit | Indrawati and Gusti Ayu Made Mas Marhaeni | 2015 | Predicting instant messenger application adoption | Survey | PLS |
| | Kit et. al. | 2014 | Youngsters intention to adopt mobile application | Survey | MLR |
| | Yee et. al. | 2015 | Determining factor of E-book acceptance | Survey | MLR |

Table 2 : Findings from previous research that support each construct

Although the implementation of UTAUT 2 in the digital workplace is still a matter of debate, given the studies mentioned previously in support of it, early research and thinking suggest the following hypotheses:

- H1a: Performance expectancy has a positive impact on an employee's intention to use digital workplace tools.
- H1b: Effort expectancy has a positive impact on an employee's intention to use digital workplace tools.
- H1c: Social influence has a positive impact on an employee's intention to use digital workplace tools.
- H1d: Facilitating conditions have a positive impact on the employee's behavioural intention to use digital workplace tools.
- H1e: Hedonic motivation has a positive impact on an employee's behavioural intention to use digital workplace tools.
- H1f: Habit has a direct positive impact on an employee's behavioural intention to use digital workplace tools.

Despite the fact that the above cases affirmed the validity of technology acceptance model and its association with other theories, there is no one-fit model for one adoption model. As is widely known, 70% of information system or technology adoption cases can be predicted using UTAUT (Venkatesh et al., 2003). In cases where employee intention in regard to digital workplace acceptance was analysed qualitatively, generational perspectives have not yet been confirmed in the UTAUT 2 constructs. Thus, the validity of UTAUT 2 in relation to this subject needs further assessment.

The Generational Cohort Theory

Several researchers defined the term ‘generation’ decades ago. Mannheim (1923) in his essay described a generation as a group of individuals of similar ages whose members have experienced a noteworthy historical event within a set period. Strauss and Howe (1991) on the other hand defined a generational cohort as consisting of people born within a particular time range who have experienced similar events throughout their lives, and who also experienced notable significant, emotional, and defining events during their formative years.

Important historical events and social changes during a generation’s formative years influence it in relation to the attitudes, beliefs, perceptions, and inclinations of individuals, and makes one particular generation unique compared to other generations (Brosdahl & Carpenter, 2012). Furthermore, those experiences, also popularly known as generational formative referents (GFRs), remain stable in an individual's lifetime; GFRs then form the way an individual interacts with his or her environment (Codrington, 2011).

The nomenclature to label generations varies in one way or another amongst researchers and is not standardised. Similar uncertainties occur in the time span for each cohort as well. The generation born before or during World War II were labelled ‘the Silent Generation’ (Martin, Ph, & Tulgan, 2006). The term of ‘traditionalist’ is also applied to this cohort (Lancaster & Stillman, 2004). ‘Veterans’ (Zemke et al., 2000) or the ‘Mature Generation’ (Oblinger, Oblinger, & Lippincott, 2008; Reeves & Oh, 2008) has been used as a label as well. Interestingly, most researchers agreed to add the term ‘Boom’ to the next generation after the ‘Silent Generation’. This label was derived from the fact that the birth rate boomed during the period after World War II until the 1960s. The cohort that followed the Baby Boomers was named ‘Generation X’ (another variant of this was the ‘13th Generation’) (Howe & Strauss, 2007) or ‘Xers’ (Lancaster & Stillman, 2004). Some researchers set the year around 1975 (Martin et al., 2006; Tapscott, 1998) as the supreme span of Generation X. Most of them, however, agree to set 1980 as the topmost limit for Generation X (Lancaster & Stillman, 2004; Oblinger et al., 2008; Reeves & Oh, 2008; Zemke et al., 2000). Despite several ranges of generation periods, most scholars refer to the Baby Boomer

period as occurring between 1946 and 1964 (Reeves & Oh, 2008). The various labels and time spans are summarised in the following table (Reeves & Oh, 2008).

| Source | Labels | | | | |
|--------------------------------------|---------------------------------|------------------------------------|-------------------------------|---|-----------------------------------|
| Tapscott (1998) | - | Baby Boom Generation (1946 - 1964) | Generation X (1965 - 1975) | Digital Generation (1976 - 2000) | - |
| Howe & Strauss (2000) | Silent Generation (1925 - 1943) | Boom Generation (1943 - 1960) | 13th Generation (1961 - 1981) | Millennial Generation (1982 - 2000) | - |
| Zemke et al. (1999) | Veterans (1922- 1943) | Baby Boomers (1943 - 1960) | Gen-Xers (1960 - 1980) | Nexters (1980 - 1999) | - |
| Lancaster and Stillman (2004) | Traditionalists (1900 - 1945) | Baby Boomers (1946 - 1964) | Generation Xers (1965 - 1980) | Millennial Generation; Echo Boomer; Generation Y; Baby Busters; Generation Next (1981 - 1999) | - |
| Martin and Tulgan (2002) | Silent Generation (1925 - 1942) | Baby Boomers (1946 - 1960) | Generation X (1965 - 1977) | Millennials (1978 - 2000) | - |
| Oblinger and Oblinger (2008) | Matures (<1946) | Baby Boomers (1947 - 1964) | Gen-Xers (1965 - 1980) | Gen-Y; NetGen; Millennials (198 - 1995) | Post-Millennials (1995 - present) |
| Reeves and Oh (2008) | Mature Generation (1925 - 1945) | Boom Generation (1946 - 1964) | Generation X (1965 - 1980) | Millennial Generation (1981 - 2000) | Generation Z (2001 - present) |

Table 3: Generational labels from different sources

This research utilises the most common time spans and popular nomenclatures provided by previous researchers and, for its analysis, chooses three generations which are currently participating in the workplace, namely Baby Boomers, Generation X, and Generation Y. Baby Boomers are made up of the generation born within the period of 1946 and 1964. Generation X followed the Baby Boomers, and these individuals were born between 1965 until 1980. The youngest generation at work nowadays consists of employees born between 1981 and 2000.

Baby Boomers, Generation X, and Generation Y are terms that are now widely used to differentiate individuals on the basis of age. The first group, Baby Boomers, were too young to have any personal memory of World War II (Strauss & Howe, 1991). The people in this cohort are not very comfortable with new technology and still rely on e-mail and the Internet in the workplace. They do not enjoy novel technology (e.g., phone texting and Skype) (Fenich, Scott-Halsell, & Hashimoto,

2011). However, they have an intense work ethic, drive, and focus, all of which leads them to experiencing difficulties in terms of envisioning retirement. Baby Boomers live to work, respect hierarchy and authority in the workplace, but are resistant to learning new things and to using new technology (Parry & Urwin, 2011).

The subsequent generation, Generation X, were born during the period of the the Vietnam War. This cohort was the first generation to be educated about AIDS (Codrington, 2011). They also live to work, but expect quick rewards for a good job; they do not like to wait to receive a promotion. The X'ers enjoy a fun working environment, flexible working hours, and independence (Parry & Urwin, 2011). In terms of technology in the workplace, they prefer to do business by email and over the World Wide Web and email (Reisenwitz & Iyer, 2009).

Generation Y have been witnesses to the emergence of the Internet, terrorist attacks, and the rise of the information age. Although they are the most protected children in history, Generation Y is believed to have grown up quickly (Codrington, 2011). In the workplace, Generation Y favours teamwork and collective action. They tend to be optimistic; they trust in centralised authority; and they embrace technology and like to keep their career paths open (Parry & Urwin, 2011). They are also interested in being promoted. This generation has high self-esteem; suffers from media and entertainment overload; embraces diversity and change; consists of networkers who are techno-savvy; and advocate global citizenship (Codrington, 2011).

| Generation | Time table | Notable Occurrences |
|---------------------|-------------|---|
| Baby Boomers | 1946 - 1964 | Space exploration, counterculture |
| Generation X | 1965 - 1980 | Vietnam War, Cold War, beginning of AIDS education |
| Generation Y | 1981 - 2000 | Rise of the information age, internet, terrorism, rising gas and food prices Digital globalisation |

Table 4: Generations chart

Generational research in Asia

Although generational studies have been undertaken in western countries such as the Netherlands (Ester, Vinken, & Diepstraten, 2000), the United States (Mannheim, 1952), and Brazil (Rubens & Motta, 2005), scholars tend to apply and validate the generational theory in other populations. The cataclysmic events in

coming-of-age years instilled a particular value which influences an individual's attitude to advertising in Malaysia (De Run & Ting, 2013). One former researcher also found that adulthood experiences positively impact access to health services amongst Southeast Asian (Kao, 2009).

Despite an expressed interest in validating generational analysis in other regions, researchers indicate that they are interested in confirming the validity of the application of generation cohort theory to the workplace. It has been theorised that there is a link between generational memories and workplace attitudes and behaviour in terms of job satisfaction, turnover intentions, and employee commitment (Dencker, Joshi, & Martocchio, 2008). Almost comparable choices were detected when media preferences were researched amongst different generations at the workplace; both Generation X and Generation Y chose the same media to communicate at the workplace (Wen, Jaska, Brown, & Dalby, 2010). Adding to the practical evidence that has been accumulated, education sector researchers found that amongst individuals in the youngest cohort, the teacher-principal relationship is the greatest predictor of the turnover rate than any other factors examined (Melchiorre, 2015). However, less concern has been put on the GCT in the context of telecommunication industry, particularly in the digital workplace.

In order to formulate a more accurate idea in terms of the impact of generational performance referents, the following hypotheses have been postulated:

- H2a: Generational formative referents indicate a positive impact on the performance expectancy related to an employee's intention to use digital workplace technology.
- H2b: Generational formative referents have a positive impact on the effort expectancy related to an employee's intention to use digital workplace technology.
- H2c: Generational formative referents have a positive impact on the social influence related to an employee's intention to use digital workplace technology.
- H2d: Generational formative referents have a positive impact on perceived facilitating conditions related to an employee's use of digital workplace technology.

- H2e: Generational formative referents have a positive impact on hedonic motivation related to an employee's intention to use digital workplace technology.
- H2f: Generational formative referents have a positive impact on habits related to an employee's use of digital workplace technology.
- H2g: Generational formative referents have a positive impact on behavioural intentions related to an employee's intention to use digital workplace technology.

Given all of the proposed hypotheses, the research model for the acceptance of the technology used in the digital workplace is depicted in the next figure.

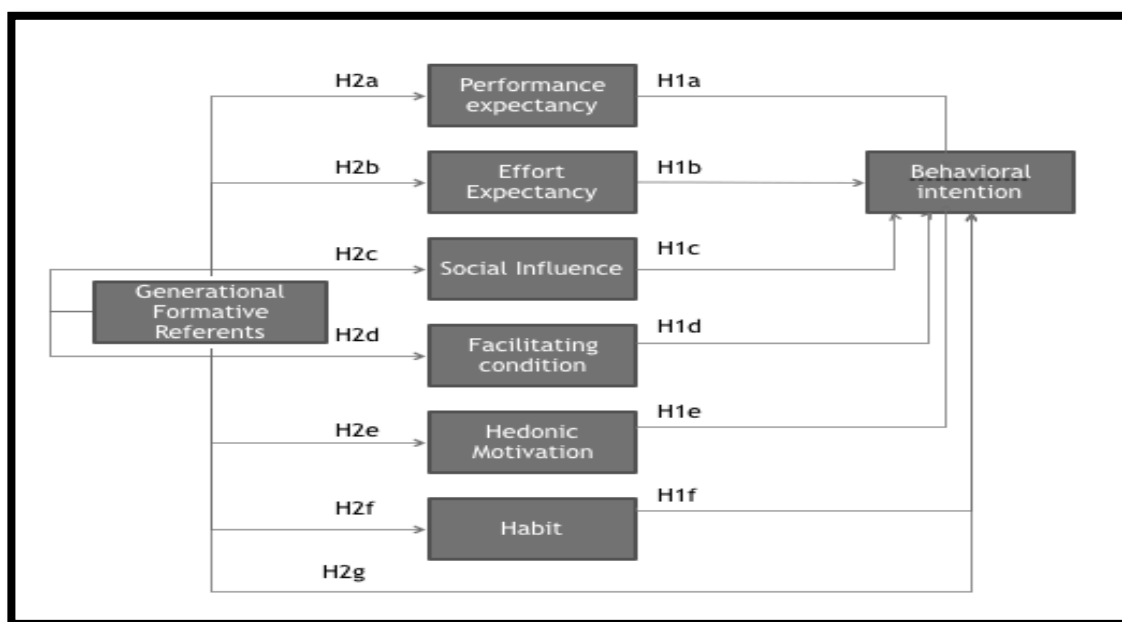


Figure 2: The theoretical model

Chapter 3: Methodology

Research setting

The aim of the research was to determine, through the employment of a quantitative research design, the relationship between GCT and UTAUT2 in relation to the technology used in the digital workplace. The research methodology, in seeking to discover trends and data in terms of employee characteristics, involved requesting employees from the biggest telecommunication provider in Indonesia to provide their input.

The survey comprised a number of standardised statements and was divided into eight sections; each chapter describes each variable relevant to digital workplace tool adoption. Respondents were asked to indicate their opinions based on a 7-point Likert-type scale (1 = Completely disagree and 7 = Completely agree). Before filling in the questionnaire, employees were requested to identify their own characteristics, including age, tenure, and department.

| Constructs | Resource |
|----------------------------------|---|
| Generational Formative Referents | (Gardiner, King, & Grace, 2013) |
| Performance expectancy | (Davis, 1989) |
| Effort expectancy | (Davis, 1989) |
| Social influence | (Viswanath Venkatesh , Michael G. Morris, Gordon B. Davis et al., 2003) |
| Facilitating conditions | (Viswanath Venkatesh , Michael G. Morris, Gordon B. Davis et al., 2003) |
| Hedonic motivation | (Venkatesh et al., 2012) |
| Habit | (Venkatesh et al., 2012) |
| Behavioural Intention | (Venkatesh et al., 2012) |

Figure 3: Construct measures

Samples

Currently, the telecom industry is a significant sector, one that is of interest to many populations. There are many players in the world, including in Indonesia, which are providing network services for customers either from the business or the personal spheres. A particular company, Telkom Indonesia, was selected to participate in this study on the basis of its large market size and scope of its business activities. The reasons for selecting Telkom Indonesia were as follows:

- It has been designated as a major telecommunication provider, with one of the biggest market shares in Indonesia.
- It employs technology, called VPN, which enables an employee to work outside the office.
- It is assumed that employees within this company are familiar with the tools related to digital workplace arrangements.

Strictly speaking, the telecommunication industry in South East Asia has been set as the target population. Moreover, the sampling frame was assigned to employees of a telecom company, whereas 150 employees participated as samples. All participants were randomly chosen from a list provided by Data Analytic Division in order to ensure the representativeness of each employee.

The extended UTAUT 2 model, together with the influence of generational formative referents, would be confirmed through the Structural Equation Model through the use of a confirmatory factor analysis approach. It followed the available rule of thumb for ideal sample size. It is generally agreed that the number of 100 to 150 subjects is the minimum satisfactory sample size when a structural equation model is being conducted (Ding, Velicer, & Harlow, 1995; Schumacker & Lomax, 2010). Another rule for defining the sample size depends on the amount of the variable. There should be an absolute minimum of five subjects per variable (Streiner, 1994). As the result, this research study, which has eight variables, should have at least 40 samples.

During the entire research process, it was inevitable that a couple of obstacles would arise, especially in relation to data collection. It is obvious that, the more

respondents that participated in the survey, the better the insights would be. Three hundred and ninety employees were invited to participate in the survey via e-mail; a concise explanation of the aim of the study was provided. The prospective respondents were selected through stratified sampling. The random selection for each generation resulted in 130 employees per cohort. Eventually, 150 responses were received, which means that the response rate was 38.5%; these responses were utilised as the final dataset for the subsequent statistical analysis.

Administration of the instruments

The instruments were administered in the following fashion: A pilot survey was initiated in order to ascertain whether any changes were necessary and whether any revisions to the instrument were required. This pre-survey was distributed to ten employees to gather their opinion about the clarity of the questionnaire. Based on their comments, subtle modifications to the survey were made. Once the final questionnaire had been formulated, it was distributed. Both the pilot and the adapted questionnaire were designed in a free online survey provided by Google Form. In order to prevent each respondent from replying more than once, a login restriction was put into place. The prospective respondents were selected from an employee list provided by the relevant unit in the company. The list was also useful in determining the appropriate target respondent for each generation since it contained the year of birth of each employee. Lastly, all selected employees filled in the survey in time with 100% valid responses, given that the survey had been designed in a manner that made it clear that answering each question was mandatory. Therefore, the participants had to answer every question. After a three-week period, the dataset was collected and it was ready to be analysed.

Statistical analysis

The structural equation model (SEM) was used to confirm that the factors related to technology acceptance (as defined by UTAUT and incorporating the variable of generational formative referents) were a valid indicator of digital workplace acceptance. The SEM was also helpful in clarifying the relationship between variables in a model. It was used to confirm the significant association

between UTAUT constructs and generational formative referents in terms of technology adoption.

Due to the characteristics of this research, which is classified as an extension of existing structural theory and which involves a relatively small sample size, PLS-SEM has been utilised (Hair, Ringle, & Sarstedt, 2011). PLS-SEM is also beneficial in determining whether GCT exerts an influence on the UTAUT 2 model in terms of digital workplace acceptance. Two processes were used to confirm the findings: An assessment of measures was followed by an evaluation of the structural model.

A reliable model requires reliable and valid measurements. Consequently, to ensure this reliability and validity, the constructs/data were analysed in light of Cronbach's alpha and composite reliability, and the average variance was extracted (AVE). SPSS was used to analyse descriptive statistics, while SmartPLS was used for model measurement. Finally, path coefficients and t-statistics were used to determine the significance of any inter-construct relationships.

Chapter 4: Results

Sample characteristics

One hundred and fifty employees participated in the questionnaire, and the composition of the respondents was as follows: 48 Baby Boomer, 54 Generation X, and 48 Generation Y employees. Afterwards, it was decided to use a sample size of 48 per cohort, so that the groups from every generation could be equally represented (Gardiner, King, & Grace, 2013). Consequently, this study analysed 144 sets of data according to the following demographics for all samples:

| N=144 | | |
|--------------------------------------|------------------|----------------|
| Variable | Frequency | Percent |
| Department | | |
| Customer Service | 8 | 0.0556 |
| Finance | 13 | 0.0903 |
| General Affairs | 6 | 0.0417 |
| HR | 7 | 0.0486 |
| IT | 53 | 0.3681 |
| Marketing | 19 | 0.1319 |
| Operational | 16 | 0.1111 |
| R&D | 2 | 0.0139 |
| Sales | 5 | 0.0347 |
| Others | 15 | 0.1042 |
| Gender | | |
| Male | 103 | 0.7153 |
| Female | 41 | 0.2847 |
| Age | | |
| 25-35 | 48 | 0.3333 |
| 36-51 | 48 | 0.3333 |
| >51 | 48 | 0.3333 |
| Working Experience | | |
| 1-5 years | 8 | 0.0556 |
| 6-10 years | 41 | 0.2847 |
| 11-15 years | 24 | 0.1667 |
| 16-20 years | 21 | 0.1458 |
| >20 years | 50 | 0.3472 |
| Distance from the Home Office | | |
| 0 - 5 km | 19 | 0.1319 |
| 6 - 10 km | 27 | 0.1875 |
| 11 - 15 km | 28 | 0.1944 |
| > 15 km | 70 | 0.4861 |

Table 5: Demographic profiles of respondents

Based on the final collected data, it emerged that a predominance of males (71.25%) responded. Moreover, 34.72% of the participating employees had significant working experience (with over 20 years of tenure), with the average age being 42 years old. Regarding the division according to certain factors, more than one-third who responded were known to be IT people. Since it is known that the availability of the digital workplace can help overcome problems related to distance, it seemed appropriate for information to be gathered as to how far away the respondents lived from the home office. The result was that it was confirmed that almost half of the respondents lived far away from their office.

Measurement model

Assessment of reliability and validity

To assess reliability and validity, researchers may utilise several indicators, namely composite reliability, average variance extracted (AVE), factor loadings, and construct inter-correlations (Chin, 1998; Thatcher, Jason Bennett; Perrewe, 2002).

The reliability of construct measurement was conducted in order to assess the stability score across various conditions (Klenke, 1992). Although composite reliability is more suitable rather than Cronbach's alpha for the PLS-SEM method (Hair et al., 2011), this study tried to assess both of them in order to strengthen the reliability of the measurements. As seen in the following table, all constructs have Cronbach's alpha above the minimum value 0.7 and composite reliability also meets the minimum value of 0.7. Those numbers indicated that all proposed constructs can be considered as acceptable instruments for research purposes (Fornell & Larcker, 1981).

| Constructs | Items | Outer Loadings > 0.5 | Reliability | | Convergent validity AVE > 0.5 |
|------------------------|-------|-------------------------|----------------------|-----------------------------|----------------------------------|
| | | | Cronbach alpha > 0.7 | Composite reliability > 0.7 | |
| Performance expectancy | PE1 | 0.746 | 0.8168 | 0.88 | 0.648 |
| | PE2 | 0.8362 | | | |
| | PE3 | 0.8711 | | | |
| | PE4 | 0.7598 | | | |
| Effort expectancy | EE1 | 0.8588 | 0.9208 | 0.9438 | 0.8079 |
| | EE2 | 0.8887 | | | |

| | | | | | |
|---|-----|--------|--------|--------|--------|
| | EE3 | 0.9334 | | | |
| | EE4 | 0.9127 | | | |
| Social influence | SI1 | 0.8981 | 0.7256 | 0.8132 | 0.5362 |
| | SI2 | 0.8759 | | | |
| | SI3 | 0.5142 | | | |
| | SI4 | 0.5538 | | | |
| Facilitating conditions | FC1 | 0.8337 | 0.7101 | 0.8398 | 0.6391 |
| | FC2 | 0.8814 | | | |
| | FC3 | 0.6673 | | | |
| Hedonic motivation | HM1 | 0.9355 | 0.9116 | 0.9445 | 0.8502 |
| | HM2 | 0.9541 | | | |
| | HM3 | 0.8747 | | | |
| Habit | H1 | 0.8854 | 0.8839 | 0.92 | 0.742 |
| | H2 | 0.8775 | | | |
| | H3 | 0.8311 | | | |
| | H4 | 0.8504 | | | |
| Generational Formative Referents | G2 | 0.657 | 0.7673 | 0.8434 | 0.5197 |
| | G3 | 0.6964 | | | |
| | G4 | 0.7555 | | | |
| | G5 | 0.797 | | | |
| | G6 | 0.6904 | | | |
| Behavioral Intention | BI1 | 0.9662 | 0.9631 | 0.976 | 0.9313 |
| | BI2 | 0.9651 | | | |
| | BI3 | 0.9638 | | | |

Table 6: Construct reliability and validity

Regarding construct validity, the values for all UTAUT 2 variables and GFR have AVE scores above a minimum of 0.5 (Higgins, 1995). The other indicators for defining instrument validity are factor loadings and inter-construct correlation, which assess discriminant and convergent validity (Thatcher, Jason Bennett; Perrewe, 2002) and are considered as valid if the loading factor meets 0.5. The statistics also demonstrate the discriminant validity of the research model by showing the greater value of the square root of each construct AVE compared to the correlations with other latent constructs (as shown in the cross-loading table). In other words, those indicators loaded highest on their own constructs (Chin, 1998). After an insignificant factor loading for generational formative construct (G1), named my friends, had been removed, all loadings met the valid criterion. Given all the above-mentioned facts, the measurement model meets the adequate criteria for reliable and valid constructs.

| | PE | EE | SI | FC | HM | H | GFR | BI |
|-----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| PE1 | 0.746 | 0.51 | 0.3503 | 0.4499 | 0.2607 | 0.3139 | 0.3058 | 0.4866 |
| PE2 | 0.8362 | 0.3901 | 0.3099 | 0.4097 | 0.3815 | 0.388 | 0.4003 | 0.3512 |
| PE3 | 0.8711 | 0.4958 | 0.2834 | 0.4103 | 0.3997 | 0.4864 | 0.3675 | 0.4595 |
| PE4 | 0.7598 | 0.3193 | 0.3132 | 0.2938 | 0.4322 | 0.4982 | 0.4655 | 0.3067 |
| EE1 | 0.4343 | 0.8588 | 0.2595 | 0.5833 | 0.1575 | 0.2933 | 0.1376 | 0.3906 |
| EE2 | 0.5342 | 0.8887 | 0.2249 | 0.5695 | 0.2147 | 0.3668 | 0.2408 | 0.4311 |
| EE3 | 0.4608 | 0.9334 | 0.2846 | 0.647 | 0.2508 | 0.4293 | 0.2958 | 0.4719 |
| EE4 | 0.4973 | 0.9127 | 0.2538 | 0.6693 | 0.3344 | 0.3875 | 0.2325 | 0.487 |
| SI1 | 0.3102 | 0.2436 | 0.8981 | 0.2843 | 0.5186 | 0.4509 | 0.4335 | 0.285 |
| SI2 | 0.3294 | 0.1046 | 0.8759 | 0.237 | 0.4124 | 0.3967 | 0.4467 | 0.2235 |
| SI3 | 0.2423 | 0.34 | 0.5142 | 0.4184 | 0.0363 | 0.194 | 0.1365 | 0.193 |
| SI4 | 0.3 | 0.3163 | 0.5538 | 0.4385 | 0.0658 | 0.1267 | 0.1006 | 0.2322 |
| FC1 | 0.3516 | 0.4594 | 0.3004 | 0.8337 | 0.2464 | 0.3306 | 0.1802 | 0.3825 |
| FC2 | 0.4609 | 0.7615 | 0.3091 | 0.8814 | 0.3228 | 0.393 | 0.1615 | 0.5036 |
| FC3 | 0.3432 | 0.3804 | 0.3587 | 0.6673 | 0.0884 | 0.2514 | 0.4381 | 0.1681 |
| HM1 | 0.4335 | 0.228 | 0.4083 | 0.2447 | 0.9355 | 0.6357 | 0.4401 | 0.2893 |
| HM2 | 0.4145 | 0.2244 | 0.4226 | 0.2571 | 0.9541 | 0.6675 | 0.5059 | 0.3317 |
| HM3 | 0.423 | 0.3118 | 0.3757 | 0.2944 | 0.8747 | 0.6284 | 0.3836 | 0.288 |
| H1 | 0.4502 | 0.4944 | 0.4136 | 0.4785 | 0.585 | 0.8854 | 0.3298 | 0.4604 |
| H2 | 0.5489 | 0.5224 | 0.3448 | 0.5049 | 0.5686 | 0.8775 | 0.372 | 0.4699 |
| H3 | 0.4525 | 0.2135 | 0.3486 | 0.2335 | 0.6258 | 0.8311 | 0.4271 | 0.4083 |
| H4 | 0.3443 | 0.1877 | 0.421 | 0.1911 | 0.6283 | 0.8504 | 0.4194 | 0.3308 |
| G2 | 0.2742 | 0.1169 | 0.4532 | 0.2458 | 0.3337 | 0.3484 | 0.657 | 0.1705 |
| G3 | 0.3028 | 0.2374 | 0.3443 | 0.2521 | 0.4357 | 0.3268 | 0.6964 | 0.2226 |
| G4 | 0.4687 | 0.2215 | 0.1564 | 0.2101 | 0.2741 | 0.299 | 0.7555 | 0.1349 |
| G5 | 0.3624 | 0.0907 | 0.3655 | 0.179 | 0.4011 | 0.3077 | 0.797 | 0.1268 |
| G6 | 0.3194 | 0.2679 | 0.2327 | 0.2212 | 0.2767 | 0.3295 | 0.6904 | 0.137 |
| BI1 | 0.4891 | 0.4877 | 0.3301 | 0.452 | 0.3398 | 0.4842 | 0.2169 | 0.9662 |
| BI2 | 0.465 | 0.4611 | 0.2916 | 0.4214 | 0.3091 | 0.46 | 0.2254 | 0.9651 |
| BI3 | 0.497 | 0.4927 | 0.2758 | 0.4459 | 0.3051 | 0.465 | 0.2042 | 0.9638 |

Table 7: Cross-loading

Structural model

Path analysis was performed to examine the hypothesised relationship related to an employee's intention to use digital workplace technology in correlation with generational formative referents. This study utilised SmartPLS as a tool to analyse the model with Partial Least Square for Structural Equation Modelling to determine the relationship and significance between constructs. The next table demonstrating the

analysed results comprises path coefficients and T-statistics, which are then used to ascertain whether the hypothesis is valid. The hypothesis is considered as being supported only if the path coefficient has a positive value or a value greater than 0; any other result would signal that the hypothesis is not supported by this case study. Regarding the effects, the measurement of a small, medium, or large effect is implied by the values of 0.02, 0.15, and 0.35, respectively (Cohen, 1988). In addition, the relationship significance between the constructs was determined by an examination using the bootstrap test in a significance level of 0.05 as well. If the T-statistics give a value above 1.96, then it can be demonstrated that the constructs are significantly related.

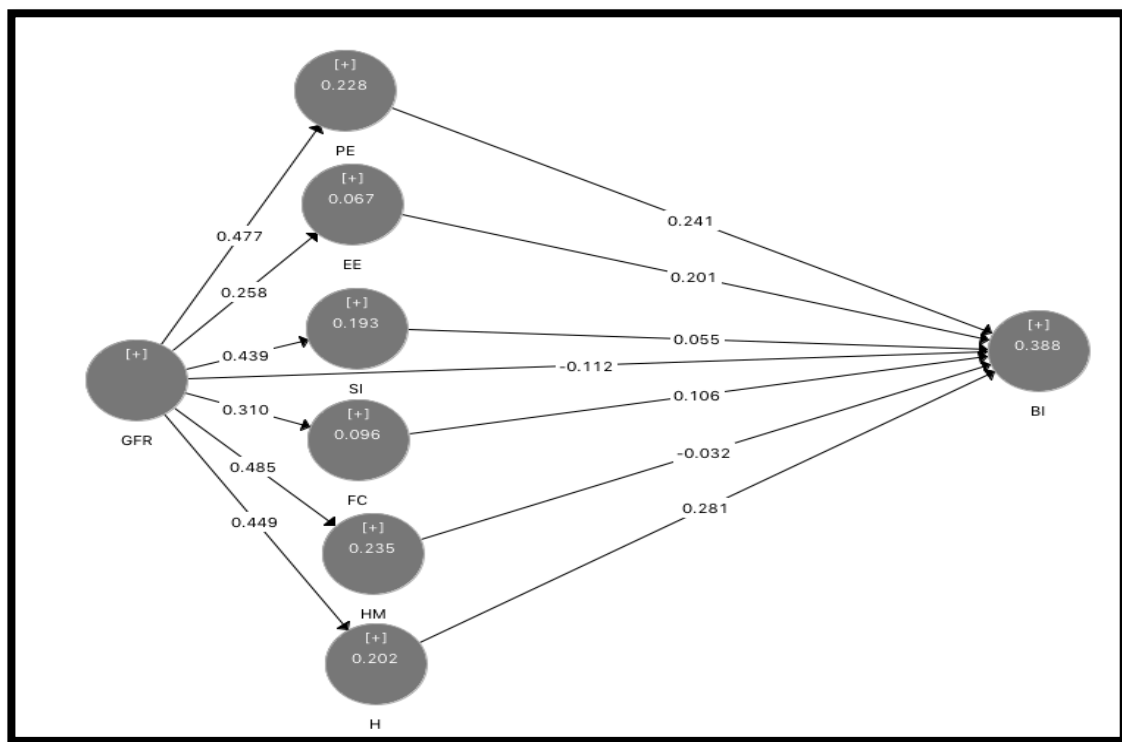


Figure 4: Path coefficients related to the assessment of the research model

The R-squared values represent the fact that six variables of the UTAUT 2 can explain the changes in the employee's behaviour in relation to the acceptance of technology for the digital workplace by 38.8%. This study does not address the variables that could explain 61.2% of the changes in regard to employee behaviour in relation to digital workplace acceptance.

Given the path coefficient, most of the hypotheses were proven, with the exception of two relationships that demonstrated a negative influence. The first

negative involved the direct relation of the GFR and behavioural intention. The relationship between hedonic motivation and an employee's intention shows a negative value as well. Despite these two results, all UTAUT 2 constructs and relationships indicated a positive impact (as asserted by the original theory). The generational formative referents also provided a positive value for all UTAUT 2 constructs.

The significance of the effects was calculated afterwards. Bootstrapping involving standard samples of 5000 was conducted and predicted inter-construct significance levels. A t-statistics score related to habit and performance expectancy concerning behavioural intention demonstrated a significant impact, while the rest of the UTAUT 2 variables contributed to the results on only a small scale. Those small effects occurred because the t-statistic scores were below 1.96. However, GFR values had the greatest impact on an employee's hedonic motivation. Regarding UTAUT 2, as shown by the t-statistics values, employees are more influenced by habit (2.25), performance expectancy (2.17), and effort expectancy (1.8) to work in a more fun environment that encourages them to adopt technology in the digital workplace.

| Hypotheses | | Path Coefficient (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (O/STDEV) | Hypothesis Remarks |
|------------|-----------|----------------------|-----------------|----------------------------|--------------------------|--------------------|
| H1a | PE -> BI | 0.241 | 0.236 | 0.111 | 2.168* | Supported |
| H1b | EE -> BI | 0.201 | 0.198 | 0.112 | 1.801 | Supported |
| H1c | SI -> BI | 0.055 | 0.081 | 0.064 | 0.873 | Supported |
| H1d | FC -> BI | 0.106 | 0.129 | 0.09 | 1.17 | Supported |
| H1e | HM -> BI | -0.032 | -0.07 | 0.053 | 0.606 | Not supported |
| H1f | H -> BI | 0.281 | 0.286 | 0.125 | 2.253* | Supported |
| H2a | GFR -> PE | 0.477 | 0.479 | 0.076 | 6.281* | Supported |
| H2b | GFR -> EE | 0.258 | 0.27 | 0.104 | 2.485* | Supported |
| H2c | GFR -> SI | 0.439 | 0.459 | 0.079 | 5.548* | Supported |
| H2d | GFR -> FC | 0.31 | 0.319 | 0.091 | 3.386* | Supported |
| H2e | GFR -> HM | 0.485 | 0.494 | 0.068 | 7.119* | Supported |
| H2f | GFR -> H | 0.449 | 0.458 | 0.073 | 6.185* | Supported |
| H2g | GFR -> BI | -0.112 | -0.122 | 0.076 | 1.469 | Not Supported |

Table 8: Total effects for all samples
***Significant influence if t-statistics > 1.96**

After performing the analysis on an overall sample, a multi-group analysis (MGA) was tested to compare the discrepancies among generational cohorts. According to a non-parametric test by Henseler at SmartPLS MGA algorithm, there are only few discrepancies emerged. Those are reflected by the p-value, less than 0.05 or greater than 0.95 extracted from t-statistics, of PLS-MGA result (see Table 9) (Sarstedt, Henseler, & Ringle, 2011). A comparison of the Baby Boomer generation and Generation X demonstrated that they have a significantly different perception about the influence of their formative years on hedonic motivation. Older employees tend to be influenced more by more drivers involving hedonic motivation related to adulthood experiences. Baby Boomers and Generation X disagree with the influence of the perceived performance, whereas seniors demonstrate the positive value of expected performance, while the middle generation received it as a negative driver. Given the results of the p-values, the comparison between Baby Boomers and Generation Y shows a difference related to the influence of GFRs on habit and effort expectancy on Baby Boomer's and Generation Y's intentions. Baby Boomers state that their formative experiences and values have a greater impact on the habit construct compared to the youngest. The eldest also find the effort to utilise the technology in the digital workplace has a negative effect, thus lowering their intention to use it. The elements on which Generation X and Generation Y differ involve the influence of GFRs on hedonic motivation. Hedonic motivation played a lesser role amongst the Baby Boomers; effort expectancy also negatively influenced their willingness to use the technology. Additionally, disparities emerge in regard to the intention drivers involving performance expectancy and habit. Generation X perceives the low implications of the upcoming performance they will achieve when they choose to work in the digital workplace. Finally, the results show that the moderating effect of generation only happens in terms of performance expectancy, effort expectancy, and habit in shaping to an employee's behavioural intention in the digital workplace.

| | PC BB | PC Gen X | PC Gen Y | p-Value BB-GenX | p-Value BB-Gen Y | p-Value Gen X-GenY |
|----------|--------|----------|----------|--------------------|---------------------|-----------------------|
| PE -> BI | 0.215 | -0.083 | 0.484 | 0.033** | 0.871 | 0.997** |
| EE -> BI | -0.194 | 0.085 | 0.226 | 0.904 | 0.983** | 0.788 |
| SI -> BI | 0.101 | 0.225 | 0.026 | 0.741 | 0.41 | 0.09 |
| FC -> BI | 0.366 | 0.132 | 0.03 | 0.246 | 0.118 | 0.223 |

| | | | | | | |
|-----------|--------|--------|--------|----------------|----------------|----------------|
| HM -> BI | -0.146 | -0.035 | -0.114 | 0.759 | 0.58 | 0.347 |
| H -> BI | 0.334 | 0.651 | 0.186 | 0.879 | 0.286 | 0.035** |
| GFR -> PE | 0.403 | 0.61 | 0.411 | 0.895 | 0.539 | 0.182 |
| GFR -> EE | 0.429 | 0.248 | 0.186 | 0.197 | 0.14 | 0.386 |
| GFR -> SI | 0.446 | 0.564 | 0.478 | 0.763 | 0.57 | 0.317 |
| GFR -> FC | 0.457 | 0.331 | 0.121 | 0.231 | 0.05 | 0.146 |
| GFR -> HM | 0.598 | 0.234 | 0.619 | 0.021** | 0.563 | 0.982** |
| GFR -> H | 0.612 | 0.415 | 0.364 | 0.089 | 0.049** | 0.393 |
| GFR -> BI | 0.037 | -0.112 | -0.153 | 0.19 | 0.16 | 0.427 |

Table 9: PLS-MGA on generations

****Significantly different**

Several interesting facts emerge from the comparative investigation per each generational cohort. Three generations expressed concern on distinctly different aspects, but they share a commonality in regard to the direct influence of GFRs on their behavioural intentions. Furthermore, they agreed that hedonic motivation did not enhance their intention to use the digital workplace.

Findings from the oldest generation mentioned that values and experiences from the past comprised in the GFRs intensely impacted whether they adopted the digital workplace environment; habit had the most impact on their willingness to use the digital workplace. Baby Boomers perceived facilitating support from the organisation as the most influential driver for using digital workplace technology. The total score effect proves that the facilitating condition variable of 0.366 as having the highest impact. Seniors believe that, when they use the digital workplace, they become accustomed to it; another perceived benefit is better performance. This oldest generation indicated the power of habit and performance expectancy with a moderate effect (0.334 and 0.215, consecutively) (Cohen, 1988). Another acceptance variable, social influence, showed only a small impact on the intent to use the technology. Despite any perceived positive impact, Baby Boomers show that they realise that the effort that has to be made to be able to work in the digital workplace lowers their intent to do so.

The results for Generation X reveal that this middle generation realises that their formative years have exerted an enormous power in regard to all of the acceptance variables, with the exception of facilitating conditions and hedonic motivation, which emerged as being of moderate influence. In regard to working in

the digital workplace, the greatest impact in relation to this group was on the expected performance. A score of 0.61 can be seen in terms of the total effect of GFRs over the performance expectancy correlation. Conversely, the direct impact of GFRs on Generation X's behavioural intention has a negative value. In terms of UTAUT 2 variables, the total effect score of 0.651 demonstrates that the habitual practice of using the digital workplace has the greatest impact. In other words, Generation X takes a favourable view that being able to work anytime anywhere is something positive. On the other hand, Generation X is only moderately affected by the social influence exerted by important people in their lives. The social influence score of 0.225 demonstrates this. Additionally, their intention to make use of the digital workplace is influenced by supporting elements in the organisation in a minimal way. Despite positive influencing variables, the middle generation expressed negative views in terms of the perceived performance they would achieve and about the influence of hedonic motivation. Generation X thinks that any expectations in relation to perceived performance would not increase their willingness to adopt the tools found in the digital workplace environment. The fun and enjoyment brought about by the digital workplace environment would not enhance their intentions to use it either.

The findings about Generation Y demonstrate that this cohort is hugely impacted by GFRs across all of the acceptance variables, except in terms of effort expectancy (the impact of GFRs is moderate), and facilitating conditions (on which GFRs have a minimal impact). The highest influence of GFRs is observed in Generation Y in terms of their hedonic motivation. Notwithstanding the impact of past values amongst Generation Y, this cohort intends to work with digital workplace technology because they realise it will have a substantial positive impact on their job performance, as demonstrated by the 0.484 total effect score over the intention. Moreover, Generation Y is of the view that the effort needed to operate the technology found in the digital workplace affects them only moderately, similarly to the revealed score for habit. Nevertheless, support from the company and the impact of fellow employees indicates a low leverage on behavioural intention. Interestingly, the total effect value for their hedonic motivation indicates a negative weight. Their intention is negatively affected by cosy working circumstances.

By and large, considering the facts as mentioned earlier, which focus on the effects of generational formative years on employees' intention to use the digital workplace, the generational theory that asserts that a person is influenced by his or her formative years is supported. Also, UTAUT 2 is partially validated in terms of its being able to designate an employee's intention to use the technology in the digital workplace. Regarding overall employee attitudes, regardless of the generation, only hedonic motivation indicates a negative impact. While considering the overall outcomes for each generation, each cohort opts for a distinct factor.

Chapter 5: Discussion

This study applied UTAUT 2 to analyse an employee's intention to adopt the technology found in the digital workplace; in addition, it assessed the influence of an employee's formative referents in regard to whether they adopted the technology or not. Results implied by the r square values of 38.9% validates the notion that UTAUT 2 is a good predictor in regard to assessing the adoption of the technology, including the digital workplace enabler which allows employees to perform their tasks anytime and anywhere.

The most substantial driver for accepting the technology used in the digital workplace identifies habit as the primary factor. The proliferation of sophisticated technology for work lures employees to utilise it on a routine basis; eventually use of the technology becomes a habit of work that takes place in the digital workspace, rather than something that is associated with the original work environment. This notion is coherent with the positive influence of habit in relation to the behavioural intention to use the mobile application, the instant messenger, and the e-government (Indrawati & Marhaeni, 2015; Kit et al., 2014; Yee et al., 2015).

This study suggests that strategy-makers should encourage a culture of embracing the digital workplace through the implementation of various approaches. For instance, promoting the advantages of the digital workplace or utilising some kind of gimmick to encourage individuals to use it at a certain level of frequency could be a fascinating initiative and form the basis of a campaign. The role of the campaign is imperative to increase utilisation, since employees have revealed that habit is the most prominent driver. The more that employees realise the fruitfulness offered by the digital workplace, the more they will be attracted to using that technology and the more they will become attached to it. Thus, the offer of an interesting promotion might encourage an employee working in this environment to change his or her habits (to incorporate the use of the tools found in the digital workplace); this will eventually increase the level of utilisation of the digital workplace.

Performance expectancy, effort expectancy, facilitating conditions, and social influence are the additional factors influencing digital workplace adoption, but these

are not very important to the employee. This effect is not as significant as the habit of the employee of using that technology.

Performance expectancy is the first modest driver. As expected, when a particular technology enhances performance, the intention to use that technology increases. This is most likely motivated by the fact that task completion is speeded up and is not influenced by material boundaries related to time and distance (Skyrme, 1994). By means of global connectivity, employees can undertake their jobs, access data, and send the results immediately to the appropriate party. This fact leads employees to a positive perception of the technology used in the digital workplace. It is consistent with the influence of the performance expectancy on an employee's intention to adopt the ICT in a government organisation (Gupta et al., 2008). This confirmation also intensifies the impact of expected performance on an employee's adoption of a digitalised recruitment system (El Ouiridi et al., 2016).

In practical terms, taking expected performance into account during the implementation of a digital workplace strategy is possible through the use of several approaches. Given that employees place more emphasis on their performance, the strategy-maker may utilise this by promoting a real-life examples. For instance, they could draw attention to an excellent employee who reached his or her highest potential and optimum performance through the use of digital workplace technology. Furthermore, an organisation should consider exploring how current job practices could be optimised to suit the digital workplace environment. For example, the frequency of regular meetings and the work involved in coordinating them could be diminished by the connectivity provided the digital workplace. As the result, a team could enhance its performance because it can work faster and more efficiently because its members do not have to be on the premises of an organisation.

The second modest driver is effort expectancy. Employees have acknowledged the value of the ease that this technology offers and of being able to use the technology provided to accomplish a job at anytime and anywhere. This positive leverage strengthens the results found in the adoption of ICT by a state-owned organisation (Gupta et al., 2008). Similar with the employee recruitment acceptance amongst the recruiter (El Ouiridi et al., 2016), the expected effort motivates the employee to participate in digital workplace arrangement.

In order to take advantage of an employee's desire to be considered skilled in the practices and tools involved in the digital workplace, a company should introduce more user-friendly and easy-to-learn technologies. Once employees realise that operating a sophisticated tool is not as difficult as they thought it would be, they will probably find their desire to use these tools enhanced. The organisation can also take advantage of the fact that connectivity related to the digital workplace environment is a familiar phenomenon for employees. A responsible team needs to exploit this fact to encourage employees to become more familiar with the technology. Showing employees how they can become skilful in a manner that does not confront them with difficulties will provide another breakthrough tactic to ease employee stress and resistance. Interactive media that promotes the idea that using technology at work is simple is more interesting than forcing an employee to read tedious user-manual texts. Interactive teaching material will produce greater and quicker results.

The third subtle driver is facilitating conditions, which have an insignificant influence on behavioural intention. Available supports from the company have a positive impact on an employee's intention to work in a digital workplace mode. This approach is similar to the impact that web-based training systems have (which have been favourably received) (Alrawashdeh et al., 2012). Supporting evidence has been provided demonstrating that there is a positive relationship between effort expectancy and behavioural intention amongst recruiters who have tried e-recruitment.

Support mechanisms on the part of organisations can take many forms. For example, frequent announcements about whom to consult and where help can be found could persuade an employee to think about participating in the digital workplace. Such information could be embedded in the signature of official e-mails or the arranger could broadcast a message at regular intervals. Graphical information is of enormous value in making an employee well informed about the available knowledge and resources found in the digital workplace.

The ultimate positive motivation to encourage employees to adopt the practices and tools of the digital workplace is by means of social influence. Employees rely on the fact that the important people in their lives guide them about many decisions, including the decision to use digital workplace utilities. Mentors or someone viewed as a positive role model can act as an impetus. However, voices in

the society itself affect decisions in only a minimal way. But important and influential people can provide support: For example, prior research about the intention to use Wiki as a form of collaborative learning demonstrated that the support of significant others had a dramatic influence on the results (Yueh et al., 2015). The positive impact of important people has also been shown in relation to online shopping acceptance (Lian & Yen, 2014).

Taking into consideration the minimal impact that social forces play in influencing an employee's acceptance of the new set of circumstances in his or her working environment, the company ought to commit itself to several strategies. The promotion of an opinion leader is one of the best ways to encourage employees. Strategy-makers could set themselves the task of identifying people who are charismatic and who exert a positive influence throughout an organisation; they could then invite employees to 'follow the leader'. Visual demonstrations of guidance from the opinion leaders could act as a real inducement for employees to participate in the digital workplace through the utilisation of a particular technology.

Surprisingly, employees do not experience emotional feelings about this technology as an inducement, and do not count the elements of enjoyment, satisfaction, and fun as important in the workplace. Employees cannot be motivated to use the digital workplace tools for hedonic reasons, probably because employees tend to be utilitarians and not hedonists. This is also caused by the main orientation of the digital workplace itself, which is technology-oriented; any hedonic value lies in its novelty, and the presence of the novelty element has a greater impact on employee intention (Heijden, 2004). The attractiveness of novel technology arrangements wanes, as does hedonic motivation, once an employee's experience with the technology and his or her practical knowledge of it increase (Venkatesh et al., 2012). This phenomenon contradicts the hedonic motivation influence found in prior research into e-marketing applications and into the intentions of people to use e-books; that research showed that hedonic motivation had a positive impact on both e-marketing and e-book acceptance (Ney, 2012; Yee et al., 2015).

An organisation should assist an employee to overcome his or her anxiety about using digital tools by increasing the presence of hedonic feelings. An emphasis should be placed on the fact that there are no rigid boundaries between personal time

and working time in terms of the use of this technology. This will promote the view that the technology for the digital workplace can be fun and entertaining as well. A campaign showing how an employee can positively enjoy using digital technology at the workplace can convince an employee to use it. This stimulus may sway employee intention and enable employees to view the workplace from another perspective; all of this can have an impact on behavioural intention.

The findings support the propositions that were made about GCT that every generation has its own preferences. Generations set their focus on discrete variables. The perception of performance expectancy, effort expectancy, and habit was found to be variable across the three generations at work. It is also varied in the influence of formative referents on hedonic motivation and habit. Therefore, the strategy-maker has the responsibility to take those variances into account. Figuring out what appeals to each generation is the key to achieving the implementation of the digital workplace environment.

Regarding generational issues, the power of GFRs has now been confirmed, as has been the fact that GFRs influence all the main variables of UTAUT 2. GFRs encompass the fundamental aspects, namely performance expectancy, effort expectancy, social influence, behavioural intention, and the extra variable of hedonic motivation and habit.

This recent investigation strengthens the notion that an employee's background directly affects the actions they undertake to get involved in a new way of working. A family's fiscal circumstances, an employee's educational and employment opportunities within society, the state of the economy in which s/he was raised, and early society values have a significant role in shaping an employee's view. Those matters lead to particular values for each generation. The formative years of employees guide them to cultivate certain values within themselves and exert a beneficial influence on employees who are deciding on how to interact with current situations.

Since this research successfully validates and supports existing generational theory, it shows that further research needs to be undertaken in order to strengthen the basis for future in-depth explanations about causality in relation to each variable

operative in a digital workplace context. Moreover, the related unit (e.g., Human Resources Department) in a company may now consider the values of each generation when it promotes a new set of technology for the digital workplace, thus reaping greater benefits for the company.

Baby Boomers focussed on idealism, image, personal growth, team orientation, youth, self-expression, health, and wellness (Codrington, 2011; Sox, 2014). The digital workplace arranger could address those values in order to increase senior engagement with such technology. Management could promote the view that employees could see their health enhanced due to the decrease in stress levels at the workplace, since transportation issues would not be so important. Another strategy to attract the attention of employees and to help them overcome their doubts about using unfamiliar technology would be for a company to demonstrate the ease with which they can work in the digital workplace, thus making older employees feel that they can acquire the skills that younger people have. Interactive audio instruction could be the solution to create a convenient connectivity as well, and would promote an adequate level of literacy and proficiency amongst employees in terms of using the technology found in the digital workplace (A. D. Benson et al., 2002). The company should take into account the values that seniors share, thus increasing their participation and transforming them into happy users of technology. They would no longer be viewed as a generation with a limited ability in technology.

Generation X, as the middle generation at the workplace, values autonomy and independence. This cohort is viewed as consisting of action-oriented workers who believe that work and life should be balanced (Jorgensen & Bradley, 2003). Management should take Generation X's values into account when promoting the virtues of operating in the digital workplace. To address this cohort's desire for autonomy and independence, an organisation could promote the fact that the digital workplace environment enhances autonomy, since in this environment, employees can work whenever and wherever they want, thus achieving the freedom of not being tied to a particular working place. Management should take into account this cohort's action-oriented traits by showing them that the digital workplace can help this group perform their tasks better and quicker, since they do not depend on the intranet connection. This would leverage this group's willingness to embrace any supporting

tool that could help them become better employees. The organisation should also focus the ability of employees to have more free time, given that they can complete their jobs faster because they enjoy the benefits of a means of connectivity that is not bound to a particular place (in a specific, physical office space). The company could also emphasise the benefits for employees to achieve a balance between their working and personal lives.

Generation Y was the third workplace generation that was analysed; this generation opts for a balance between life and work, wants to have fun and to achieve rewards in the workplace; individuals in this cohort also seek personal development and social recognition, and they intend to work harder and faster (Terjesen & Frey, 2010). To address the issue of achieving a work-life balance, an organisation should adopt the same approach as it would undertake with the Generation X cohort. The organisation could promote the fact that, if an employee does not have to travel to the company's premises to get connected with the required network, s/he would enjoy more free time. By fostering the simplicity of using the digital workplace, the company would promote the fact that working in such an environment is both fun and interesting. Some of the consequences of digital workplace utilisation are that employees could achieve targeted performance objectives without difficulty—all of which would lead to the achievement of rewards as a consequence. Management should also convey another benefit brought by this brand new work arrangement, namely personal development. Graphical information would be more interesting for this youngest generation, and messages should be transmitted that using digital workplace technology would enhance their chances of their bettering their performance and would increase their personal development. This cohort should be told about the benefits of working faster and smarter, and that working in a digital environment would enable them to come up with new and fresh ideas. Such strategies are closely related to Generation Y's hedonic motivation, all of which would be supported by the company, which would enjoy the benefits of increased motivation and the enhanced happiness of its employees.

Implications

Academic implications

Taken collectively, the results from this study contribute data on the importance of generation theory and of the validity of applying UTAUT 2 to analyses of digital workplaces. Firstly, the implication for the generational theory has been confirmed by means of the enhancement of each generation's nature and values. Previous studies have been undertaken in different countries (Mannheim, 1952); this research demonstrated that there were diversified experiences as well, and that the influence of the formative years for each generation also played an important role (and were similar). Secondly, it puts forward the notion for scholars in the social research field about the necessity to limit the gaps between generations through a consideration of the interests of each cohort. The third value of this study is that it describes the drivers that could lead employees to consider working in the digital workplace. The most prominent consideration for the employee is the habit of using the digital workplace as an alternative for the original working environment. In contrast, the hedonic motivation of an employee exerts a negative influence on his or her intention to use the digital workplace.

Practical implications

Although this research has been undertaken for academic reasons, organisations can reap the benefits from understanding the gap among generations in terms of practical values. Thus the decision-maker can strategise on how to improve performance either from inside or outside an organisation. Improvements made to the design of the working environment will increase the productivity and interaction of the team. By identifying and understanding the variations within each generation as to what influences them, a company will be able to overcome 'clashes of civilization' that are primarily caused by generational differences (Codrington, 2011). On top of that, a company has a chance to maintain its competitive advantage in business. This could occur as a result of a manager's considering and embracing the differences within each generation, and then using his or her powerful team to promote relevant infrastructure and utilities. Seeking to attain a promising competitive advantage, the company could also achieve a better working environment, where each generation

could feel comfortable and productive. Inter-generational interaction and cooperation would also be enhanced. The evidence could form the basis for Human Resources Departments to develop better strategies to improve employee engagement in the digital workplace. Since employees of an organisation are heterogeneous, suitable approaches should be adopted that address the values and motivations of each cohort.

It is also beneficial for the corporation to take into account the drivers that influence an employee's intention to connect to the digital workplace. An organisation should find a way to enhance an employee's perception that his or her performance could be improved when s/he incorporates digital workplace tools into their working environment. The simple effort to be skilful in the expected work setting has to be promoted in a better way. Support from the company should always be available, and must be readily accessible to employees, who should also be made aware that such assistance can be provided. Lastly, opinion leaders can play an important role in persuading employees participate fully in digital workplace arrangements.

Limitations and further research

This project focused on understanding employee behavioural intentions when changing circumstances, brought on by the introduction of digital workplaces, forced them to work in new environments. This study was conducted by means of a cross-sectional research design. Future studies may use longitudinal designs or panel data to investigate in more detail employee intentions and the reasons for those employee attitudes. Furthermore, more respondents from all generations and multiple companies would increase the likelihood that the results could be generalised.

Nowadays the digital workplace can be adopted across a spectrum of industries. The extensive development of the Internet has provided a great opportunity for institutions to embrace digital workplace design. Further study is encouraged, so that cross sectors can be compared in order to understand the nuances of employee characteristics related to each industry (and not just in terms of the telecommunication sector).

Since this research only focused on the use of VPN as one example of digital workplace technology, there is a room for additional studies about other technologies

used in the digital workplace arrangement. Researchers could investigate employee intention related to various other applications that form part of the digital workplace, such as the remote desktop applications or satellite office arrangement.

Because the generational cohorts studied were mostly based amongst western cultures, the author has to point out that this theory may or may not be directly applicable to South East Asian populations. Therefore, more empirical studies are needed in order to prove the regional coverage of the generational cohort theory.

Chapter 6: Conclusions

The present study addressed factors driving employees' intentions to participate in the digital workplace through the use of a particular technology. It also tested the role of the generational formative referents on the main drivers of the recent technology acceptance model, UTAUT 2. How the intention to use the digital workplace varied among three generations at workplace, namely Baby Boomers, Generation X, and Generation Y was also examined. Finally, it researched discrepancies found amongst each generation at the workplace in regard to the influence of their formative years, especially in terms of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and habit.

Regardless of the generation that was analysed, habit in the form of addiction was accounted as the most prominent driver for an employee to use the technology related to a digital workplace arrangement. In addition to the positive feeling that employees experience when using such technology, employees opine that being able to use the tools in the digital workplace may lead them to achieve better performance levels than would be possible in the traditional working environment. Nevertheless, employees are less put off by the effort that is required to be made for them to be able to work in the digital workplace. It is not just effort expectancy that influences their views, but also the presence (or not) of support provided by the company and their society; this is particularly true of employees on a lower scale. It is interesting that the fact that technology at the digital workplace made their jobs more fun and entertaining actually lowered their intention to get involved in the digital workplace.

However, the views across the generations were nuanced. Baby Boomers agreed that the most salient reason to use digital workplace technology was the available support from the company. This group also expected that their performance would be improved when they use this technology, and thus the use of it became a habit. Generation X considered habit as the main reason to make use of digital workplace arrangements. In addition, the voices of people around them and support by the organisation were important factors for them to consider. The youngest generation, Generation Y, looked forward to bettering their performance levels, and

this enhanced their intent to use such technology; in fact, it was the greatest driver for them. Following an increase in their performance levels, this cohort preferred to use the digital workplace because they are skilful and able to maximise the utilities of digital workplace technology. They seemed to transform it to the better addiction at the workplace compared to the traditional one.

The moderating effect of each generation is presented at some correlation within the UTAUT 2 and the GFR. Performance expectancy, effort expectancy, and habit exercise a discrete impact on the intention of each generation to embrace the technology. Another discrepancy was introduced by an analysis of how various generations at the workplace viewed their formative years, of how those years influenced their hedonic motivation, and whether they used the digital workplace as a matter of habit.

Despite the fact that the results of previous studies on generational differences yielded from scholars, the media, or practitioners were mixed, this study found that GFRs play a significant role in governing employee perception about the technology used in the digital workplace. Formative referents shape an employee's comprehension about performance expectancy, effort expectancy, social influence, facilitating conditions, habit, and hedonic motivation. All three generations agreed that their values and experiences influenced their current perceptions, particularly on the adoption of technology drivers. Regardless of their generational cohort, employees stated that their formative years influenced how they perceived things. From all referents in the formative years, Baby Boomers indicated that they perceived a high impact of all referents in all drivers of technology acceptance. While the middle and the youngest generation stated that the past moderately influenced their expectations on the effort involved to adopt digital workplace practices and tools, support from the company also exercised significant leverage. To summarise: the idea that generational formative referents play a significant role on the technology adoption has been proven.

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Appendix A Scale of measurement

| | Variables | Measurement | Scale of measurement |
|--------------------|------------------------|-------------|----------------------|
| Demographic | Gender | Nominal | |
| | Age | Nominal | |
| | Department | Nominal | |
| | Home office distance | Nominal | |
| | | | |
| UTAUT 2 | Performance expectancy | Interval | 7-points Likert |
| | Effort expectancy | Interval | 7-points Likert |
| | Social influence | Interval | 7-points Likert |
| | Facilitating condition | Interval | 7-points Likert |
| | Hedonic motivation | Interval | 7-points Likert |
| | Habit | Interval | 7-points Likert |
| GCT | GFR | Interval | 7-points Likert |

Appendix B Survey items

| Constructs | Items | Measures |
|---|-------|--|
| Generational Formative Referents | | When I was growing up, the following influenced my behaviour towards the use of technology for digital workplace today : |
| | G1 | My friends |
| | G2 | My familys' financial circumstances |
| | G3 | Educational opportunities within society |
| | G4 | Employment opportunities within society |
| | G5 | The economy |
| | G6 | Society's values |
| Performance expectancy | PE1 | I find the DWP tool useful in my work. |
| | PE2 | Using DWP tool enables me to accomplish tasks more quickly. |
| | PE3 | Using DWP tool increases my productivity. |
| | PE4 | If I use the DWP tool, I will increase chances of getting higher performance score on KPI |
| Effort expectancy | EE1 | My interaction with DWP tool is clear and understandable. |
| | EE2 | It is easy for me to become skilful at using the DWP tool. |
| | EE3 | I find the DWP tool is easy to use. |
| | EE4 | Learning to operate the DWP tool is easy for me. |
| Social influence | SI1 | People who influence my behaviour think that I should work with DWP tool. |
| | SI2 | People who are important to me think that I should work with DWP tool. |
| | SI3 | My unit has been helpful in the use of DWP tool. |
| | SI4 | In general, the company supports the use of DWP tool. |
| Facilitating condition | FC1 | I have resources necessary to use DWP tool. |
| | FC2 | I have the knowledge to use DWP tool. |
| | FC3 | A specific person or group is available for assistance with DWP tool difficulties. |
| Hedonic motivation | HM1 | Working with DWP tools is fun compared to traditional (offline) workplace |
| | HM2 | Working with DWP tools is enjoyable compared to traditional (offline) workplace. |
| | HM3 | Working with DWP tools is entertaining compared to traditional (offline) workplace. |

| | | |
|-----------------------------|-----|---|
| Habit | H1 | Working with DWP tools has become a habit for me. |
| | H2 | Working with DWP tools has become natural for me. |
| | H3 | Working with DWP tools is addicting |
| | H4 | I must work with DWP tools |
| Behavioral Intention | BI1 | I intend to use DWP tool in the near future. |
| | BI2 | I predict I would use DWP in the near future. |
| | BI3 | I plan to use the DWP in the near future. |

Appendix C Questionnaire on Google Forms

Digital Workplace (DWP) adoption in different generation survey (e.g. VPN / Seamless office)

Dear participant,

Thank you for joining the research about the digital workplace adoption in different generation in Telecom industry. This research is part of the research program on ICT in Business at Leiden University.

Digital workplace tool is an information system which enables employee to get into the company private network through public network named the internet. It could connect employee's devices to intranet and perform tasks and jobs as well as employee physically sit in the company premise with the internal network available. For example, several companies offer its employee to work via VPN to realize the seamless office.

Instruction :

Please indicate which score best reflects your opinion on particular statement as follow:

- 1 Strongly disagree
- 2 Moderately disagree
- 3 Somewhat disagree
- 4 Neutral
- 5 Somewhat agree
- 6 Moderately agree
- 7 Strongly agree

Notes :

- 1. There is no right or wrong answer, just reflection of your thought.
- 2. All of data and answers submitted through this survey are confidential and will be used only for research purposes anonymously.

Generational Formative Referents

When I was growing up, the following influenced my behavior toward the use of technology to connect to the digital workplace. In other words, whether the values and experiences from your adulthood affect your perception of using DWP tools.

My friends

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

My family's financial circumstances *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Educational opportunities within society *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Employment opportunities within society *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

The economy *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Society's value *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Performance Expectancy

the degree to which using digital workplace technology will provide benefits to you in performing activities

I find the DWP tool useful in my work. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Using DWP tool enables me to accomplish tasks more quickly. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Using DWP tool increases my productivity. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

If I use the DWP tool, I will increase chances of getting higher performance score on Key Performance Index (KPI). *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Effort Expectancy

the level of ease associated with your use of digital workplace technology

My interaction with DWP tool is clear and understandable. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

It is easy for me to become skillful at using the DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

I find the DWP tools is easy to use. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Learning to operate the DWP tool is easy for me. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Never submit passwords through Google Forms.

Social Influence

the extent to which you perceive that the important person for you (e.g. family and friends) provides the impetus to use a digital workplace technology.

People who influence my behavior think that I should work with DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

People who are important to me think that I should work with DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

My unit has been helpful in the use of DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

In general, the company supports the use of DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Facilitating Condition

your perception of the available resources and support to use digital workplace technology

I have resources necessary to use DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

I have the knowledge to use DWP tool. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

A specific person or group is available for assistance with DWP tool difficulties. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Hedonic Motivation

the fun or pleasure derived from using digital workplace technology

Working with DWP tools is fun compared to traditional (offline) workplace. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Working with DWP tools is enjoyable compared to traditional (offline) workplace. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Working with DWP tools is entertaining compared to traditional (offline) workplace. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Habit

reflects the results of prior experiences in using digital workplace technology

Working with DWP tools has become a habit for me. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Working with DWP tools has become natural for me. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

Working with DWP tools is addictive. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

I must work with DWP tools. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Behavioral Intention to Use

indicate your intention to use digital workplace technology

I intend to use DWP tool in the near future. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

I predict I would use DWP in the near future. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

I plan to use the DWP in the near future. *

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| Strongly disagree | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Strongly agree |

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Thank you - Terima kasih - Dank U Wel

Thank you very much for your collaboration.

Dessy

Leiden University

The Netherlands

Email : d.dessy@umail.leidenuniv.nl

chidessy@gmail.com

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SUBMIT

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