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Bridging the Divide: Using UTAUT to predict multigenerational tablet adoption practices

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Abstract

This study examined the "Unified Theory of Acceptance and Use of Technology" (UTAUT) in the context of tablet devices across multiple generations. We tested the four UTAUT determinants, performance expectancy, effort expectancy, social influence, and facilitating conditions, to determine their contributions for predicting behavioral intention to use tablets with age, gender, and user experience as moderators. 899 respondents aged 19–99 completed the survey. We found consistent generational differences in UTAUT determinants, most frequently between the oldest and youngest generations. Effort expectancy and facilitating conditions were the only determinants that positively predicted tablet use intentions after controlling for age, gender, and tablet use. We also discuss the implications of ageism and gender discrimination of technology adoption. Finally, we argue that our findings can be extended to create effective training programs for the teaching, learning, and adoption of new technologies in a variety of organizational settings.

Keywords

UTAUT; technology; adoption; age; training; gender

1. Introduction

Over its history, Information and Communication Technology (ICT) steadily extended its societal reach and became an integral part of the lives of people who used them. Based on individuals' needs, selectively adopting and using ICTs purposefully became one of the critical activities for improving their quality of life. Thus, technology is an increasingly relevant topic to study given its infinite accessibility and the fact that it is being used by a majority of people for fulfillment of various purposes such as information, entertainment,

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social support, leisure, work, and relationship maintenance (Volkom, Stapley, & Malter, 2013).

Uses of ICTs are not limited to any particular user group or certain professional field but rather, have expanded their reach to a wide variety of user groups including teenagers and both younger and older adults (Wilkowska & Ziefle, 2009). That said, there are important variances in the ways that each of the user groups uses technology. A considerable number of recent studies revealed that as the age differs, so does the possibility of making different choices on the adoption and use of technology (e.g., Arning & Ziefle, 2007; Chen & Chan, 2011; Hawthorn, 2000). When it comes to usage rates of technologies such as computers and mobile phones, generational differences emerge in the form of what is referred to as the "digital divide" (Chen & Chen, 2011). In general, digital divide refers to the gap of the level of accessibility and usability to new information and communication technologies between those who are more and less aware of their existence, and experienced in their use (Morrisett, 2001).

Recent research of tablet users indicated the possibility of an existing digital divide among generations in the U.S. population. According to one report, older adults (aged 75 and older) are less likely to own a tablet than younger adults. Yet, tablets have been extremely popular amongst U.S. adults aged 65 and younger (Zickuhr, 2011). Related research has focused on the physiological and cognitive factors regarding the digital divide among generations. These studies revealed that unlike the younger generation, concerns such as the perceived requirements for adopting and using technologies impacted the older generation's use of information technology to a much greater degree (e.g., Alvseike & Brønnick, 2012; Barnard et al., 2013; Hawthorn, 2000).

Due to rapidly changing technology trends, questions concerning the digital divide among generations need further investigation, particularly with respect to new technologies. Recent developments of new communication technologies are creating sophisticated communication environments. For example, given their increasingly integrated and mobile platforms, smartphones and other devices are supplementing computers by helping people access the Internet anytime and anywhere (Blank & Dutton, 2013). Similarly, powerful and highly mobile tablets continue to gain ground within the tech-consumer sector, and offer much promise for improving the quality of life of those who use them. Despite this, only a limited number of studies have explored digital divide issues within the context of tablet adoption and use. This line of inquiry is important as it can serve as a model for the development of other training programs designed to facilitate the teaching, learning, and adoption of new technologies within diverse organizational settings, and for diverse populations.

Thus, the main goal of this study was twofold: First, we explored variables from the Unified Theory of Acceptance and Use of Technology (UTAUT; Venkatesh & Morris, 2000; Venkatesh, Morris, G. Davis, and F. Davis, 2003) to better understand generational differences related to tablet use. Second, we tested UTAUT's ability to predict individuals' behavioral intention to use tablet devices in the context of multiple moderators.

1.2. Generational Differences in Technology Adoption and Its Use

Technology use is one of the most important behaviors for increasing the quality of life for people of all ages (Park & Jayaraman, 2003). Scholars also proposed that technology could considerably increase independence for older adults (Chumbler et al., 2004). Despite the increase in the amount of exposure to a wide variety of technologies for older adults, they are less likely to adopt new technology than younger generations (Blackler et al., 2009). While ease of use increased for older adults, a digital divide still remains (Chen & Chan, 2011). This suggests that the above demographic still encounters obstacles to effectively using new technology (Alvseike & Brønnick, 2012).

Moreover, because different age groups may think differently when it comes to making a decision about technology use and adoption (Venkatesh & Morris, 2000), there even are differences within generational groups of older adults in terms of technology adoption. As per Smith (2014), in the Pew Research Center report, around 68% of adult Americans in their early 70s go online, and approximately 50% have broadband at home. The adoption and use of Internet falls to 47% and broadband adoption reduces to 34% among 75–79 year old adults. In the context of a general increase in tablet usage in the US, older adults in the age group of 75 and above were less likely to own a tablet device as compared to younger adults (Zickuhr, 2011).

Attitudes towards technology and its use are the most commonly studied elements of research regarding the relationship between aging and technology adoption. The relationship between age and attitudes towards technology is predominantly negative, meaning that as the age of individuals' increases, their negative attitudes towards technology increase (Wagner et al., 2010). In general, it is thought that cost is a major prohibitive factor in adoption or use of digital technology per se (Morrell et al., 2000). However, researchers found that older adults are doubtful about the benefits that they will have from technology use, and that lack of perceived benefit outweighs cost as a key factor for less use of technology by older adults (Melenhorst et al., 2006; Wagner et al., 2010).

Another factor affecting the use of technology is the comfort level of each generation. Prior research revealed that older adults expressed less comfort or ease in using technology and less confidence in their ability to successfully use new technology (e.g., Adler, 2006; Chen & Chan, 2011; Smith, 2010). Consequently, older adults did not have a great interest in adopting new technology and were much less willing to use technology than younger adults (Chen & Chan, 2011). This compared to younger adults who grew up in the age of computers and technologies, and seem to understand ICTs easily, illustrates that younger adults are more comfortable with the Internet (Volkom et al., 2013). All of these findings suggest that perceived easiness or understandability has emerged as one of the major factors predicting the use of technology for older generations (Chen & Chan, 2011).

Prior research revealed that there are generational differences on actual performances while using technology (e.g., Thayer & Ray, 2006; Volkom et al., 2013). In terms of the function of technology for older adults, communication with family and loved ones, and access to social support were the most common motivators for computer and Internet use (Thayer & Ray, 2006). On the contrary, younger adults were more likely to view technology as a useful

tool for entertainment, especially for spending time on social networking sites and downloading songs (Volkom et al., 2013). It can be said then that each generation of technology users have their own purpose and expected values from new technologies. Additionally, researchers have identified age related variables among different generations as a major factor in users' intentions to adopt and use technology. Hence, it is appropriate to conclude that there are prevalent generational differences when it comes to attitudes about technology, ease of use, and actual performance while using technology. Our overarching research question seeks to determine if there are generational differences for UTAUT variables, and more broadly, how age moderates UTAUT.

1.3. Theoretical Framework and Hypothesis Development

The rapidly increasing evolution and demands in ICTs because of its attractive nature and efforts to provide nearly endless opportunities, particularly mobile technology, signifies a widespread use of wireless technology such as tablets (Volkom et al., 2013). However, only a limited number of studies have thus far actually focused on each generation's acceptances and uses of tablets as compared to other digital devices, such as computers or mobile phones. Therefore, the aim of this study is to focus on testing the predictive power of UTAUT on each generation's intention to use tablet devices.

1.3.1. Unified Theory of Acceptance and Use of Technology (UTAUT)—Unified theory of acceptance and use of technology (UTAUT) was designed to unify the multiple existing theories about how users accept technology (Venkatesh & Morris, 2000; Venkatesh et al., 2003). UTAUT is created from the following eight notable theories: Theory of Reasoned Action (TRA) from Davis et al. (1989); Technology Acceptance Model (TAM) from Davis (1989), Davis et al. (1989), Venkatesh and Davis (2000); Motivation Model (MM) from Davis et al. (1992); Theory of Planned Behavior (TPB) from Taylor and Todd (1995); Combined TAM and TPB (C-TAM-TPB) from Taylor and Todd (1995); Model of PC Utilization (MPCU) from Thompson et al. (1991); Innovation Diffusion Theory (IDT) from Moore and Benbasat (1991); and Social Cognitive Theory (SCT) from Compeau and Higgins (1995) and Compeau et al. (1999).

1.3.2. Moderators and Determinants of Technology Use Intention—Based on a combination of eight theories, UTAUT explains behavioral intention to use or adopt technology by proposing four predictive determinants (Venkatesh et al., 2003): performance expectancy, effort expectancy, social influence, and facilitating conditions. Venkatesh et al. (2003) identified four key moderators believed to affect the relationship between key determinants and intention: gender, age, voluntariness, and experience. We first discuss moderators and determinants broadly, then narrow to discuss determinants individually and present our hypotheses.

Existing UTAUT research offers support for age as a moderator in technology adoption, more so than for gender and user experience. Khechine, Lakhal, Pascot, & Bytha (2014) found that age moderated the acceptance of a webinar system in a blended learning course, while gender did not. However, age distribution was limited in this study, with almost 80% of the sample between ages 19 and 23, only 10.5% older than 30, and the entire sample only

ranging from 19–45 years old. Further, due to the nature of the study (within the context of undergraduate education), distribution of technology literacy was also likely limited, as almost 94% of the sample had at least four years experience with computers. Despite these limitations, the study discovered that younger students (aged 19–24) demonstrated more concern for performance expectancy, whereas older students (aged 25–45) demonstrated more concern for facilitating conditions. Zaremohzzabieh, Samah, Omar, Bolong, and Shaffril (2014) found that age moderated the effect of overall UTAUT determinants on fisherman's ICT adoption in Malaysia, whereas experience only moderated performance expectancy and effort expectancy determinants bearing on intention.

Lian and Yen (2014) conducted a study on the moderating effects of age and gender on adopting online shopping in Taiwan. Lian and Yen (2014) examined UTAUT in the context of five barriers: usage, value, risk, tradition, and image. They sampled two groups, younger adults (ages 20–35, sampled from students in Taiwanese universities) and older adults (50–75, sampled from students completing computer classes for seniors). They found that older adults (aged over 50) experienced additional barriers of risk and tradition to online shopping than younger adults (aged under 20), whereas the moderating effect of gender was not very significant. Lian and Yen (2014) also found that older adult consumers were more likely to perceive the risk of adopting a new service as high because the information technology literacy of older adults is generally lower than that of younger users. Also, older adults were more likely to have a relatively higher tradition barrier than the younger generations because older adults were generally more familiar with traditional physical store service than with the virtual store service. Based on the findings, this study concluded that the additional barriers older adults experience lead to a decrease in the older adults' intention to shop online.

Pan and Jordan-Marsh (2010) examined the moderating effects of age and gender on Chinese older adults' decisions to adopt the Internet. They found that age but not gender significantly moderated intention such that age difference between two groups of older adults (aged 50–60 and aged above 60) negatively affected intention to use and adopt the Internet. However, Pan and Jordan-Marsh (2010) discovered that the moderating effect of age became non-significant when the four key determinants (perceived usefulness, perceived ease of use, subjective norm, and facilitating conditions) were added to the predictive model. Thus, they inferred that age indirectly moderates Internet use intention and actual adoption, and it may be mediated by other predictors. Pan and Jordan-Marsh (2010) also noted that older adults can be physically and psychologically disadvantaged when using the Internet. For example, cognitive abilities such as memory, speed of information processing, and functional deficits such as visual impairments and dexterity problems commonly affect older adults' Internet use. Additionally, psychological factors such as concerns about security and privacy and worries about the complexity of finding information, navigating, and using programs can affect the older adults' intention to use the Internet. Next we look at UTAUT key determinants more specifically.

Performance Expectancy: Performance expectancy refers to the extent to which individuals are convinced by the fact that utilizing the system will help them to achieve benefits in the execution of their job. The root constructs under performance expectancy

include perceived usefulness (from TAM/TAM2, Combined-TAM and TPB; Davis, 1989; Davis et al., 1989); extrinsic motivation (from MM; Davis et al., 1992); job-fit (from MPCU; Thompson et al., 1991); relative advantage (from IDT; Moore & Benbasat, 1991); and outcome expectations (from SCT; Compeau & Higgins, 1995). According to Taiwo and Downe's (2013) meta-analysis of 37 selected empirical studies, the only strong relationship among the four key determinants and behavioral intention (technology adoption) was between performance expectancy and intention.

Similarly, Kaba and Touré (2014) found that performance expectancy positively influenced 1030 social network website users in Africa's intentions to adopt social networking, but this relationship did not hold when gender and age moderators entered. However, authors acknowledge that more than 90% of the sample was under 28 years old and approximately 50% had been using internet-related technologies for at least four years. They described these individuals as "more technology-ready and sensitive to new trends" and therefore "less likely to be influenced by technology characteristics and referents' opinions than older users" (p. 1669). Braun (2013a) found that perceived usefulness, a variable similar to performance expectancy, significantly predicted internet-using older adults' (60–90 years) intentions to use social networking websites. He also suggested that as the age increases, the intention to use social networking sites (SNS) decreases. However, when considered in the context of a more complex model also including frequency of Internet use, SNS trust, and demographic variables such as age, sex, and education, the effect of perceived usefulness on intention was less robust. Braun (2013a) argued that this finding may be attributed to the fact that all the participants were Internet users. Thus, it appears that age affects perceptions about performance expectancy, although these expectations in particular may be affected by user experience. Therefore, we suggest:

> H1: There will be generational differences in individual perception of performance expectancy.

Effort Expectancy: Effort expectancy refers to the level of ease related to the utilization of the system. Its root constructs are perceived ease of use (from TAM, Combined TAM and TPB; Davis, 1989; Davis et al., 1989); complexity (from MPCU; Thompson et al., 1991); and ease of use (from IDT; Moore & Benbasat, 1991). Although the effects of effort expectancy on adoption intentions were weak in meta-analysis (Taiwo & Downe, 2013), Diño and de Guzman discovered that effort expectancy was the most significant influencer of older adults intentions to participate in Telehealth. Braun (2013a) found partial support that older adults' perceptions of social networking websites ease of use (similar to effort expectancy) predicts intentions, such that the correlation was significant when tested individually but not when regressing with other constructs. Previous research found connections between older adults' perceptions about technology ease of use and intention; however, these studies examined technology such as ATMs and grocery store scanners that are associated with home-based use (Gilly & Zeithaml, 1985). Therefore, we suggest:

> H2: There will be generational differences in individual perception of effort expectancy.

Social Influence: Social influence refers to the extent to which individuals' perceptions that the people who are close to them or those who hold important positions in their life believe that they should try using the new system. Its root constructs are subjective norm (from TRA, TAM2, TPB and C-TAM-TPB; Ajzen, 1991; Davis et al., 1989; Fishbein & Ajzen, 1975; Taylor & Todd, 1995), social factors (from MPCU; Thompson et al., 1991), and image (from IDT; Moore & Benbasat, 1991). Meta-analysis reveals small effect sizes for social influence (Taiwo & Downe, 2013), which is consistent with previous research (Venkatesh et al., 2003; Wang & Smith, 2009). Similarly, Zaremohzzabieh et al. (2014) did not find a significant path between social influence and intention, however, age relatively moderated this path, with the effects being more pronounced on older fisherman. Therefore, we suggest:

> H3: There will be generational differences in individual perception of social influence.

Facilitating Conditions: Facilitating conditions refers to the extent to which individuals consider that there are certain technical and organizational conditions existing that help facilitate the use of the system. Its root constructs are perceived behavioral control (TPB, C-TAM-TPB; Ajzen, 1991; Taylor & Todd, 1995), facilitating conditions (from MPCU; Thompson et al., 1991), and compatibility (from IDT; Moore & Benbasat, 1991). Facilitating conditions had the smallest effect size on tablet use intentions in meta-analyses (Taiwo & Downe, 2013), which is not surprising considering Venkatesh et al. (2003) hypotheses that there would be a direct relationship between facilitating conditions and use, not between facilitating conditions and intention. However, few studies have measured actual use, and still other studies have uncovered a significant association between facilitating conditions and intention (e.g., Foon & Fah, 2011; Venkatesh & Brown, 2001; Venkatesh et al., 2011b). There is some research that indicates that facilitating conditions are especially important for older populations (e.g., Khechine et al., 2003; Zaremohzzabieh et al. (2014), and qualitative research emphasizes the importance of organizational and technical infrastructure in positively affecting technology acceptance (Alawadhi & Morris, 2008). Therefore, we suggest:

> H4: There will be generational differences in individual perception of facilitating conditions.

Tablet Use Intention: Previous research has explored the ability of UTAUT determinants to predict intention, sometimes within the context of moderators. For example, Zaremohzzabieh et al. (2014) determined through structural equation modeling that facilitating conditions, performance expectancy, and effort expectancy accounted for almost 25% of the variance in 400 fisherman's ICT adoption intentions. Hou (2014) found that performance expectancy, social influence, facilitating conditions, and computer anxiety were significant determinants of 330 Taiwanese firm's business intelligence systems adoption intentions, whereas only facilitating conditions and behavioral intention predicted business intelligence systems usage behavior. Based on prior research, we found that only a limited number of studies have been conducted within the context of tablet use for exploring generational differences. Therefore, we proposed the following research question to

understand which factors are positively or negatively predicting the behavioral intention to use tablets.

RQ1: Do the UTAUT determinants predict the behavioral intention to use a tablet in the context of age, gender, and experience moderators?

2. Empirical Work

2.1. Sample & Procedure

Eight hundred and ninety nine respondents completed the survey instrument, of which 365 were females (40.6%) and 470 were males (52.3%). The respondents' ages ranged from 19–99 (*M*= 45.90 years). Generation classification was adopted from Oblinger and Oblinger (2005), wherein Builders were born between the years 1900–1946; Boomers were born between 1946–1964; Gen X were born between 1965–1982 and the Gen Y/Millennials were born between 1982–1991. The final respondents in our study included: Builders (9.9%; n=89), Boomers (36.9%; n=332), GenX (15.7%; n=141), and GenY (30.4%; n=273). Of these individuals, 351 own and use a tablet, 286 use tablets, but do not own a tablet, 184 neither own nor use a tablet, and four own a tablet, but do not use it. Participants were asked how many hours they use a tablet in the average week, with results ranging from 0–165 hours (M = 8.64, SD = 18.59). Of the 847 participants who answered this question with a numerical answer (vs. "rarely" or "I've used it once or twice"), 399 reported using the tablet for 0 hours per week.

The survey measure included a statement with color photos that explained what a tablet was. 48 people indicated that even after the description they did not know what a tablet was. These individuals ranged in age from 24–100 (M = 69.58, SD = 16.57), with all but four participants aged 50 and above. One 53 year old individual owns a tablet, but does not use it or know what it is.

Researchers utilized a combination of network and quota sampling techniques to collect surveys. As a research component of a methods course, upper-level undergraduate students recruited survey participants from their social networks, with survey distribution targeted across portions of the population (generational groups). The questionnaire was designed to better understand participants' opinions about technology. All participants gave informed consent before completing the survey. The duration of the survey was approximately 30 minutes. Callbacks included attempted contact with 100% of participants to verify participation, age, and qualifying condition.

2.2. Measures

2.2.1 Measures—Variables measured included the UTAUT variables: performance expectancy, effort expectancy, social influence, facilitating conditions in presence of the moderating factor, and year born (used to create generational groups) predicting the behavioral intention for use of tablet. The results of the study are presented in the next section see Table 1 for the correlation matrix.

2.2.2 UTAUT—We measured participants' determinants of tablet use and adoption with fifteen Likert-type items adopted from Venkatesh et al. (2003) with responses ranging from

1(*strongly disagree*) to 5(*strongly agree*). Factor analysis (varimax) and scree plot indicated four factors consistent with prior research. The first factor was *social influence* (eigenvalue=11.05, 58% var., all items loading above .71, and not above .33 on other subscales). Six items measured this factor. A sample item includes "People who are important to me think that I should use a tablet." The items had good reliability (α= .91, *M*=3.33, *SD*=.88) and were averaged to form a scale with a high score indicating higher social influence.

The second factor was *performance expectancy* (eigenvalue=1.90, 10% var., all items loading above .66, and not above .38 on other subscales). Five items measured this factor. A sample item includes "Using a tablet in my personal life enables me to accomplish tasks more quickly." The items had good reliability (α= .97, *M*=3.54, *SD*=1.08) and were averaged to form a scale with a high score indicating higher performance expectancy.

The third factor was *effort expectancy* (eigenvalue=1.49, 8% var., all items loading above . 89, and not above .35 on other subscales). Four items measured this factor. A sample item includes "Learning to operate a tablet is easy for me." The items had good reliability (α= . 96, *M*=3.74, *SD*=1.06) and were averaged to form a scale with a high score indicating lower effort expectancy.

The fourth factor was *behavioral intention* (eigenvalue=1.20, 6% var., all items loading above .77, and not above .36 on other subscales) was measured by four items. A sample item includes "I intend to use a tablet in the next 3 months." The items had good reliability (α= .91, *M*=4.14, *SD*=.94) and were averaged to form a scale with a higher score indicating more behavioral intention to use tablets.

Facilitating conditions have a direct influence on use behavior, beyond behavioral intentions (Venkatesh et al., 2003) and this is why measurement statistics for facilitating conditions were evaluated separately from other determinants in the UTAUT model. Facilitating conditions were also measured by four five-point Likert-type items. A sample item includes "I have the resources necessary to use a tablet." After one item was removed ("A tablet is not compatible with other ways that I communicate (e.g., face-to face communication)"-recoded), factor analysis indicated a single factor solution (eigenvalue=2.08; 69.3% var.). The items had acceptable reliability (α=.78, *M*=3.77, *SD*=.87) and were averaged to form a scale with a higher score indicating greater perceptions of conditions that facilitate tablet use.

3. Results

3.1. Generational Differences in UTAUT Predictors

First, we conducted a series of independent samples t-tests to determine the relationship between UTAUT determinants (performance expectancy, effort expectancy, social influence and facilitating conditions) and actual use behavior. We asked participants "have you ever used a tablet" which they answered yes or no. In brief, people who reported that they use tablets had significantly higher means for all determinants than people who report that they do not use tablets, see Table 2.

We conducted one-way ANOVAs and a MANCOVA to address hypotheses about whether generational differences existed in individuals' intentions regarding tablet use and adoption. There is some discrepancy among scholars concerning the temporal order of behavior (e.g., actual/current tablet use) and attitudes (e.g., UTAUT variables and intention to use tablets), that is the question of if use creates attitudes or if attitudes are predictive of use. Though our strategy to try to tease apart this concern statistically, we examined the results of both a series of ANOVAs that do not control for use and a MANCOVA with actual use as a covariate. Our concern with conducting only a MANCOVA was grounded in the knowledge that because of the temporal order assumption of the test, the analysis model would assume that the behavior (tablet use) changes or precedes the attitude (intention to use the tablet), which we feel may contradict the theoretical framework.

For *performance expectancy*, ANOVA results indicated a significant mean difference, $F(3, 824)=12.41$, $p>.001$, across the four generations. GenX reported the highest level of performance expectancy ($M=3.75$, $SD=1.05$), followed by GenY ($M=3.67$, $SD=1.01$), Boomers ($M=3.46$, $SD=1.06$), and Builders ($M=2.96$, $SD=1.23$). GenX reported a higher level of performance expectancy than GenY. Only Builders were significantly different from all other generational groups. Thus, H1 was supported (see Table 3 for details).

For *effort expectancy*, ANOVA results also indicated a significant mean difference, $F(3, 821)=55.75$, $p>.001$, across the four generations. GenY reported the highest level of effort expectancy ($M=4.11$, $SD=.82$), followed by GenX ($M=3.97$, $SD=.96$), Boomers ($M=3.60$, $SD=1.03$), and Builders ($M=2.61$, $SD=1.17$), recalling that effort expectancy is coded such that a higher number indicates perceptions that less effort will be required to use a tablet. There were significant differences between all generations except between GenX and GenY. Thus, H2 was supported (see Table 3 for details).

For *social influence*, ANOVA results indicated a significant mean difference, $F(3, 822)=5.52$, $p=.000$, across the four generations. GenY reported the highest level of social influence ($M=3.41$, $SD=.85$), followed by GenX ($M=3.40$, $SD=.92$), Boomers ($M=3.30$, $SD=.83$), and Builders ($M=3.00$, $SD=1.05$). Builders are different from all the other groups, however, Boomers are different from Builders only. Thus, H3 was supported (see Table 3 for details).

For *facilitating conditions*, ANOVA results also indicated a significant mean difference, $F(3, 818)=23.58$, $p=.000$, across the four generations. GenX reported the highest level of facilitating conditions ($M=4.00$, $SD=.80$), followed by GenY ($M=3.95$, $SD=.77$), Boomers ($M=3.70$, $SD=.83$), and Builders ($M=3.10$, $SD=1.12$). Generation X and Boomers perceptions were not significantly different, however, GenY was different from older generations including Builders and Boomers. Thus, H4 was supported (see Table 3 for details).

For *behavioral intention*, ANOVA results indicated a significant difference, $F(3, 823)=39.68$, $p=.000$, across the four generations. GenX reported the highest level of behavioral intention ($M=4.37$, $SD=.74$), followed by GenY ($M=4.30$, $SD=.77$), Boomers

(*M*=4.14, *SD*=.88), and Builders (*M*=3.18, *SD*=1.32). Only Builders were significantly different from all other generational groups (see Table 3 for details).

We also conducted a MANCOVA controlling for participants weekly hours of tablet use with generational group (Builder, Boomer, Generation X, Generation Y) as the independent variable and performance expectancy, effort expectancy, social influence, facilitating conditions, and tablet use intention as the dependent variables. There was a main effect for generational differences ($F(15,2361) = 12.63$, $p < .001$; Pillai's Trace). Between-subjects effects revealed significant differences between generational groups for all but one determinant: Performance Expectancy (($F(3,789) = 9.60$, $p < .001$), Effort Expectancy (($F(3,789) = 48.37$, $p < .001$), Facilitating Conditions (($F(3,789) = 19.93$, $p < .001$), and Intention (($F(3,789) = 37.93$, $p < .001$). Social Influence was not significant (($F(3,789) = 2.26$, $p = .08$), however, the observed power for this determinant was .57, compared to 1.00 for all other determinants. The generational mean differences within determinants were similar in strength to those found in the ANOVAs (see Table 4), with two exceptions. First, in effort expectancy, the difference between Boomers and Generation X changed from $p < .01$ to $p = .012$. Second, the ANOVA reveal significant differences between Builders and all other generational groups for social influence, but there were no significant mean differences between generational groups for social influence in the MANCOVA, which was underpowered (see Table 4 for details).

4.2. Prediction of Behavioral Intention to Use Tablets

Another goal of this study was to explore how UTAUT determinants predict tablet intentions. The research question seeks to understand how the formation of anticipated behavioral intention is affected by performance expectancy, effort expectancy, social influence, and facilitating conditions.

We used a *stepwise regression* analysis with moderators age, gender, experience of tablet use ("Have you ever used a tablet" y/n), and hours of tablet use in the first block, and the UTAUT subscales (performance expectancy, effort expectancy, and social influence) traditionally noted as the three predictors of use intention in the second block. The results of this regressions are presented in Table 5.

In the first block where control variables entered (Adj. $R^2 = .13$, $F(4,750) = 27.98$, $p < .001$), age negatively ($\beta = -.18$, $t = -4.99$, $p < .001$) and experience of tablet use positively ($\beta = .26$, $t = 6.79$, $p < .001$) predicted anticipated behavioral intention. Gender ($\beta = .07$, $t = 1.90$, $p = .06$) and hours of tablet use ($\beta = -.05$, $t = -1.27$, $p = .20$) were included in the first block as controls, but were not significant. The addition of the second block resulted with a significant change, R^2 change = .11, $F(5,749) = 48.35$, $p < .001$, where only effort expectancy entered the model and positively ($\beta = .42$, $t = 10.64$, $p < .001$) predicted intention to use a tablet in the next three months. In the final model, age negatively, gender positively, experience of tablet use positively, hours of table use negatively, and effort expectancy positively predicted 24% of the variance in tablet use intention. Performance expectancy and social influence were not significant in the final model (see Table 5 for details).

Facilitating conditions do not directly predict intention in Venkatesh et al.'s (2003) model, but instead predict use behavior. Nevertheless, because some existing research tests this association, we executed a *stepwise regression* identical to the first only with the addition of facilitating conditions in the second block to explore how facilitating conditions may contribute to tablet use intentions. The results of this regressions are presented in Table 6.

In the first block where control variables entered (Adj. R^2 = .13, F(4,747) = 27.82, $p < .001$), age negatively (β= −.18, $t = -4.99$, $p < .001$) and experience of tablet use positively (β = .26, $t = 6.76$, $p < .001$) predicted anticipated behavioral intention. Gender (β = .07, $t = 1.94$, $p = .05$) and hours of tablet use (β = −.05, $t = -1.27$, $p = .21$) were included in the first block as controls, but were not significant. The addition of the second block resulted with a significant change, R^2 change = .11, F(5,746) = 48.11, $p < .001$, where effort expectancy entered the model and positively (β = .42, $t = 10.61$, $p < .001$) predicted intention. Facilitating conditions entered on the third block (R^2 change = .01, F(6,745) = 41.56, $p < .001$; β = .13, $t = 2.63$, $p < .05$). In the final model, age negatively, gender positively, experience of tablet use positively, hours of tablet use negatively, effort expectancy positively, and facilitating conditions positively predicted 25% of the variance in tablet use intention. Performance expectancy and social influence were not significant in the final model (see Table 6 for details).

4. Discussion

This study indicated generational differences within tablet use and predictive power of each of the key determinants from the theory of UTAUT for behavioral intentions to use tablets. In doing so, this study suggests that the theory of UTAUT can be utilized to better understand generational differences within the context of new technology adoption. The discussion section focuses on generational differences and tablet use/intention, why effort expectancy is the most influential to use behavior of tablets, and facilitating conditions among groups.

Age consistently emerges as a significant moderator in UTAUT research. One major contribution of this study is that it tests UTAUT in a sample that is diverse in both age and user experience. Previous research has been limited in both age distribution and user experience. For example, almost 80% of Khechine et al.'s (2014) sample was between 19 and 23, with the full range between 19–45, and likely technology literate (94% having at least four years experience with computers). Over 90% of Kaba and Touré (2014)'s sample was under 28 years old and about half had been using the Internet for at least four years. Lian and Yen (2014) sampled two groups aged 20–35 and 50–75 who were completing computer classes. Pan and Jordan-Marsh's (2010) sample was over 50 years old. By comparison, our sample ranged from 19–99 years old, with tablet owners, non-owners, users, and non-users who ranged in weekly use from not at all to nearly constantly. In addition to the traditional technologically savvy millennial who is constantly connected to his or her device, we also had the lower range of technology interaction, with almost 6% of the sample reporting that they do not understand what a tablet is, even after a ¾ page long description with photos.

4.1. Generational Differences in Tablet Use/Intention

Prior research (e.g., Smith, 2010; Adler, 2006; Czaja et al., 2006; Blackler et al., 2009) revealed that younger adults are more willing to adopt and operate new technology as compared to older adults, and that attitudes towards new technology are an important factor contributing to the use of technology. However, researchers also revealed that the relationship between age and positive attitudes towards new technology was negatively related (Wagner et al., 2010). Our findings were parallel to the results from prior research.

First, based on the final model of regression analysis age negatively predicted the anticipated behavioral intention, which means that as age increases, the intention to use a tablet decreases. This result confirmed findings from previous studies (Wagner et al., 2010; Chen & Chan, 2011). Researchers indicated negative relationships between the age of an individual and the deliberate use of technology (Wagner et al., 2010; Chen & Chan, 2011). Within the perspective of the digital divide, one of the causes of having difficulty with actual use of technologies might relate to a variety of perceptions of an individual's ability to use technology. Thus, one of the purposes of this study is to identify the origin of perceptions that create generational differences regarding deliberate use.

Looking across ANOVA and MANCOVA results, we found significant generational differences for all determinants, even when accounting for hours of tablet use. Analyses revealed the greatest number of significant differences between generations for effort expectancy, followed by facilitating conditions, with differences between both Builders and Boomers and younger generations. Intentions and perceptions of performance expectancy only differed significantly between the oldest and youngest generations. One thing to consider is that each generational group has its own expected benefits from and rationale for using tablets. When it comes to expectancy of using or adopting new technologies, generational differences might be related to the technology use behaviors themselves. Prior research revealed that older adults are more likely to only use technology for its distinct purpose (e.g., Thayer & Ray, 2006; Chen & Chan, 2011). This suggests that older adults were less likely to engage with new types of technologies (Volkom, et al., 2013) such as tablets, which have multiple purposes. Prior research supports and this study confirms the notion that age is a moderator in technology use and adoption, and it seems that this difference may be most salient between the oldest and youngest generations. What we know less about is why and how the moderation occurs, rather than relying on assumptions that tablet (or technology) use is age related.

Researchers must be careful not to presume that technology use and adoption is age-ordered. Braun (2013b) investigated how younger and older adults view the features of communication channels differently, arguing that social goals and social network sizes differ across generations. Based on this premise, Braun (2013b) hypothesized that age affects how individuals perceive communication channels' features and these differential perceptions predict the preference or selection of different channels. Braun (2013b) discovered significant age differences between younger adults (college students aged 18–42), and internet-using older adults (aged 60–86), particularly among newer communication channels (e.g., text, video chat, SNS). Although he found differences in both age and usage, the usage differences were more salient than were the age differences. Thus, he argued that

perceptions about a channel would be a more robust determinant of channel use than generational differences.

Despite these valuable findings, it is difficult in our current society to fetter out exactly how this process unfolds. That is, channel perceptions and usage can be inherently age related, especially in the context of stereotypes and societal expectations. In general, Western societal expectations are that younger generations are better with the adoption of new technology than older generations. Prior studies also demonstrated that older adults expressed less comfort or ease in using new technology as compared to younger adults (Alvseike & Bronnick, 2012; Chen & Chan, 2011; Volkom et al., 2013). Some adults expressed feelings of technology stigma and intentions to leave the workforce because of a perceived lack of technology literacy in qualitative interviews (Author, 2014). We explore how stereotypes may affect technology use and adoption in more depth in the ageism and technology adoption section.

With regards to behavioral intention to use tablets, we found that Builders were the only group who significantly differed from other generations. Because effort expectancy was the only predictor that positively predicted anticipated behavioral intention to use tablets when controlling for age, the level of effort expectancy might explain the difference between Builders and others. Further, within indicating generational differences, effort expectancy was the only predictor that differentiated all the generations (Builders, Boomers, Gen X and Gen Y) from each other. Further, analyses comparing mean differences for UTAUT determinants and actual use behavior revealed the most salient mean difference for effort expectancy (across all generational groups). In this study, effort expectancy is defined as the level of ease related to the utilization of the system. UTAUT (Venkatesh et al., 2003) explains determinants of both intention and actual adoption, but does not completely explain why effort expectancy would be the sole predictor of tablet use intentions in the context of tablet use. We explore alternative explanations in the ageism and technology adoption section.

4.2. Facilitating Conditions and the Relationship between Use and Attitudes

The final result of this study that we will focus on before turning to alternative explanations concerns the difference between facilitating conditions among groups. We found that Builders believed that there were little to no organizational and technical resources that would help them use tablets. This suggests that an intervention to encourage tablet use for elders should include building support systems and accessible resources. Prior studies also revealed that facilitating factors such as an individual’s intellectual and cognitive abilities and perceived cost of learning new technology, which have an effect on technology adoption (Melenhorst et al. 2002; Alvseike and Bronnick 2012; Czaja, et al. 2006). Qualitative research advises that the importance of facilitating conditions cannot be overstated (Alawadhi & Morris, 2008).

The importance of facilitating conditions in the context of adoption for some cohorts calls to mind the debate about the relationship between technology use and attitude formation. One may conjecture that increased usage automatically facilitates more favorable attitudes. We would argue that this phenomenon only occurs in the presence of a positive use experience,

underscoring the importance of both effort expectancy and facilitating conditions. We found the greatest concentration of significant generational differences in the effort expectancy and facilitating conditions determinants, both when controlling for actual use and when not.

The major difference we uncovered in the analyses when controlling for hours of tablet use was in the concept of social influence. When we did not control for actual use, Builders were significantly less concerned with what important others thought about their tablet use than all other generations. However, these differences became non-significant when adding hours of tablet use as a covariate. This may indicate that there is some degree of social influence among older adults who have important others who motivate them sufficiently to use tablets such that once they get past the resistance it matters to them to the same degree as other generational groups instead of mattering significantly less. Taiwo and Downe's (2013) meta-analysis revealed small effect sizes for social influence, consistent with previous research. They also rationalized that "users might not be obligated to use the system until they are motivated by important others (people)" who are able to influence attitudes and behaviors. This is in line with our contention, in that norms may be perceived similarly meaningful across generations after use/adoption that was encouraged by important others. In a study of an ongoing tablet training program, Author (2014) found that many older adults had received tablets as gifts from loved ones.

4.2. Ageism and Technology Adoption

Our study aligns with the greater body of research that reveals age as a moderator of technology use and adoption. We seek to understand why and how age moderates technology adoption in the context of our results. One possible explanation for why effort expectancy is most influential to tablet use intentions might be illuminated by considering broader socio-cultural biases in relation to age and technology. Ageism is a particularly relevant concern given that more and more individuals are living longer lives. According to 2010 U.S census data (Werner, 2011) slightly over 40 million individuals are aged 65 years and older, which is up roughly 5.3 million from 2000 (a 15.1% increase). This rate has continued to trend upward from at least 1900, and shows no sign of slowing down. However, despite the increased prevalence and longevity of this age demographic, negative views of the elderly continue to circulate. Mark Zuckerberg, Facebook's chief executive, was publically quoted as saying that, "young people are just smarter" (as cited by Kopytoff, 2014). Similarly, Vinod Khosla, a co-founder of sun microsystems, venture capitalist, and billionaire, has stated that "people over 45 basically die in terms of new ideas" (as cited in Kopytoff, 2014). What these quotes reflect are the broader assumptions often believed and implicitly or explicitly expressed throughout society.

According to one study, as high as 77% of respondents (aged 60 and older) reported experiencing one or more incidents of ageism, with more than half of the incidents reported as being experienced more than once (Palmore, 2001). In general, the elderly are often perceived as less mentally and physically competent, incapable of or otherwise resistant to change, and overall less flexible or adaptable to new situations. As words and phrases such as "latest and greatest," "cutting-edge," "sophisticated," etc., are often so strongly implicit in

our experiences/perceptions of new media, they also seem implicitly ageist given the aforementioned stereotypes.

While we are all-too-familiar with these kinds of stereotypes, it is important to consider the ways in which these views might impact older adults, both in our interactions with them as well as their own physical and emotional well-being. For the purposes of this study, understanding the impact of ageism might help shed more light on the overall relationship between effort expectancy and tablet intention, use, and adoption with regard to the Builder generation. For example, Levy, Slade, Kasl, and Kunkel (2002) argue that ageism differs from other forms of self-stereotypes due to internalization processes. While race and gender stereotypes are often encountered as individuals develop group self-identities, age stereotypes are acquired several decades prior to becoming older. Therefore younger individuals more readily accept age related stereotypes without critically appraising them. Consequently, “when individuals reach old age and the stereotypes become self-relevant, they have already internalized these stereotypes” (Levy, et al., p. 261). While being in a situation that might activate a stereotype threat of aging may contribute to feelings of anxiety (such as being asked to learn and use a new technology), Levy’s team suggests that aging stereotypes would have already long been assimilated. This means that Builders’ expectations, anxieties, and frustrations related to aging and learning new technology are much more deeply intertwined with their sense of self than it would be if negative perceptions arose merely as a result of being introduced to a potentially threatening environment or situation.

Due to the above findings, the current study further suggests that training programs designed to address these complexities are needed. This would include an even greater understanding and sensitivity to not only potential physical limitations of older populations, but also internalized stereotypes held by both older adults and the training facilitators. At the very least, the challenges and complexities experienced as a result of ageism might further highlight the importance of these training programs, which could be designed to help more effectively and ethically facilitate the use of new technologies. When done effectively and ethically, training programs could help chip away at some of the obstacles and stigmas that impede or discourage older adults from using resources that can greatly benefit them (such as tablets; for example in social connectivity, information seeking, and health management, see Author, 2015). This would not only create better training programs and potentially mitigate some ageist attitudes held by trainers (Author, 2013) but can also contribute to the overall well-being of the target population. For example, Levy et al. (2002) illustrated how among people 50 years and older, those with more positive internalized perceptions of aging lived an average of 7.6 years longer than those with more negative age stereotypes. This demonstrates the need for programs that address the competence and skills acquisition level but perhaps more importantly, programs that address the relational level as well. Thus, a more complete picture of ageism in technology adoption should be further explored and explicated in future research.

Finally, this result suggests that even though technologies related to tablet use have evolved, the resources that would help individuals who are less technologically literate to use tablets (or any new technology) are greatly lacking. As mentioned above, some of the users have

relatively high levels of anxiety or difficulty when they are introduced to new technologies. Such concerns related to the issue of the digital divide and ageism stress the need for lowering elders' level of expected efforts for using new technology. Because the use of technology has transformed the workforce, educational practices, leisure activities, and specifically health services, technology training programs, and overall improved technology literacy, may help ease older individuals' daily living (Alvseike & Brønnick, 2012; Volkom et al., 2013).

5. Limitations and Future Directions

There were certain limitations of the study and they should be recognized in order to make the findings more objective. The study is cross sectional and not longitudinal. Future research should consider a longitudinal design that would take into consideration any changes in the target population of the study. Another limitation is the sampling method used in the study, as network quota sampling is not generalizable. Therefore, future research should seek a random sample of participants.

Researchers must be careful not to make assumptions about age differences in technology use that would drive selection of sampling variables. A better study might examine actual physical tablet use. For example, researchers might find a technology relevant but unfamiliar to a sample population of interest, pretest intentions of the sample then administer rudimentary training and disseminate the technology, then test again.

Some of the individuals sampled in our study reported exceptionally high weekly hours of tablet use (i.e., 100–165 hours per week, nearly constantly). Although this type of use is conceivable with handheld devices, for example if individuals are using them to track sleep, it may compromise analyses if participants are conceptualizing "use" in different ways. Future research may seek to tease apart what is "active" (e.g., emailing) and "inactive" (e.g., listening to music while sleeping) use.

Consistent with previous research, our study did not find evidence of gender as a significant moderator. One caveat is that our study, like most if not all previous studies, actually examines differences based on reported biological sex (sex differences) not gender differences (for discussion see Floyd, 2014). Documented sex differences tend to be consistent, albeit small, in communication phenomenon (i.e., the effect sizes are small in meta-analyses, see Dindia, 2002) whereas gender differences tend to be more fluid (e.g., Hanasono et al., 2011). Future research should consider examining gender roles and socialization processes in the context of technology use and adoption, perhaps utilizing an expressivity/instrumentality scale as a proxy for masculine/feminine orientations (e.g., Spence & Helmreich's 1978 Personal Attributes Questionnaire or Crockett's 1965 Role Category Scale), and incorporating mixed methodological strategies. Similar to gender disparities in STEM, research may uncover internalized gender biases about technology adoption and usage that may be just as detrimental to individuals and society as the ageist biases we discussed in this paper.

Finally, we suggest that this study can greatly contribute to the development of more effective training programs designed to teach different generational cohorts to use new

technologies (for an example of an existing program for tablet use see Author, 2014; 2015). While our focus was specifically on tablet technology, the findings related to unique generational characteristics, needs, and challenges allow for a broader application of our model. For example, these insights could be used to help develop training modules for the integration or implementation of other technologies in the business sector. With regards to older adults, the opportunity costs associated with allowing this group to leave the workforce are meaningful. Despite that fact that older adults are disproportionally affected by chronic illnesses (e.g., arthritis, hypertension, and diabetes), low risk older adults generate significantly lower medical costs than "high risk" adults aged 19–34 (CDC, 2014). Moreover, older adults are frequently more productive, more cautious, more experienced, more collaborative with coworkers, more likely to follow safety rules and regulations, and possess more institutional knowledge than younger adults (CDC, 2014), all of which positively affects the overall productivity, safety, and health and wellness of the nation's workforce. However, there is increasing evidence that this age group struggles with adapting to new technology (Logan, 2000), especially in the workplace. New research indicates that some older adults are considering leaving the workplace early (e.g., taking early retirement) because of the significant burden, stress, and stigma they feel related to technology adoption (Author, 2014). Stigma affects both employees and employers; for example, a longitudinal study found that stigma consciousness predicted intentions to leave the job, which translated into actual attrition (Pinel & Paulin, 2005).

The National Institute for Occupational Safety and Health (NIOSH) recommends that one strategy for facilitating an age-friendly workplace that would retain these valuable employees is to "invest in training and building worker skills and competencies at all age levels," especially to "help older employees to adapt to new technologies" which is "often a concern for employers and older workers" (CDC, 2014, n.p.). Our results highlight target areas for designing training and building workers' skills to facilitate technology adoption. Our finding that among UTAUT variables (Venkatesh, Morris, Davis & Davis, 2003; e.g., performance expectancy, effort expectancy, social influence, facilitating conditions), effort expectancy and facilitating conditions predicted 24% of the variance in tablet adoption after controlling for age, gender, and user experience implies that given a specific type of support, older adults can become more technology literate.

Thus, this study sheds light not only on the best pedagogical practices for teaching and learning new technologies, but also how to design training modules or programs that are sensitive to complex social and interpersonal dynamics of different generational groups. As many of the anxieties and challenges related to learning a new technology are uniquely social and interpersonal (i.e. communicative in nature), we further argue that these same findings and subsequent practices could be adapted to create training programs for other demographically diverse populations. Said otherwise, by taking into consideration the uniquely situated characteristics and challenges of a particular group, we can more ethically and effectively design programs that are better equipped to foster understanding, adoption, and use of new technology in a variety of organizational contexts and settings.

6. Conclusion

Despite the few limitations, this study makes a fresh and new contribution to the existing pool of research concerning UTAUT variables and use of technology, particularly with respect to tablet devices. There are still a few dimensions that need further exploration with regard to tablet use and adoption among various generations. We focused our study on finding which UTAUT determinants are most salient in predicting tablet use intentions across generations, and queried to determine self-report of actual tablet use. However, we did not confirm or manipulate actual use of tablet devices. This is a suggestion that we would like to make for future research. We also recommend that tablet/technology literacy should command greater attention in future studies, particularly as it pertains to technology adoption and use.

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Highlights

- We surveyed a large crosssectional sample diverse in age and technology experience
- Generational differences exist across UTAUT determinants
- The most salient gaps are between the oldest and youngest generations
- We predicted intention with age and two user experience variables as moderators
- Only effort expectancy and facilitating conditions predict tablet use intention

Table 1

Bivariate Zero Order Correlation Matrix for Study Variables

		1	2	3	4	5	6
1.	Performance Expectancy	1.00					
2.	Effort Expectancy	.65***	1.00				
3.	Social Influence	.67***	.55***	1.00			
4.	Facilitating Conditions	.59***	.75***	.63***	1.00		
5.	Tablet Literacy	.55***	.80***	.50***	.67***	1.00	
6.	Behavioral Intention	.31***	.48***	.23***	.40***	.49***	1.00

* $p<.01.$,

** $p<.05$,

*** $p<.001$; two-tailed

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Table 2

T-test Results for Comparing Tablet Users and Non-Users

	Groups						
	Don't' use tablets			Use tablets			
	n	*M*	*SD*	*n*	*M*	*SD*	*T*
Performance Expectancy	182	2.90	1.10	623	3.73	0.99	−9.65***
Effort Expectancy	181	2.69	0.97	623	4.06	0.86	−17.13***
Social Influence	179	2.77	0.86	625	3.51	0.81	−10.57***
Facilitating Conditions	182	3.08	0.89	619	3.97	0.75	−12.30***
Behavioral Intention	180	3.61	1.14	634	4.31	0.80	−7.68***
Age	186	57.62	17.39	604	42.04	17.64	10.65***

* p<.01.,

** p<.05,

*** p<.001

Note. Based on the results of Levene's tests, equal variances were not assumed within following variables: Effort Expectancy, Facilitating Conditions, Behavioral Intention, and Age.

Table 3

Generational Differences in UTAUT Predictors and Behavioral Intention to Use Tablets ANOVAs

	Generations	*M*	*SD*	F	df	*p*
Performance Expectancy	1 Builders$^{2\,3\,4}$	2.96	1.23	12.41	824	.00
	2 Boomers^{1}	3.46	1.06			
	3 GenX$^{\mathbf{1}}$	3.75	1.05			
	4 GenY$^{\mathbf{1}}$	3.67	1.01			
Effort Expectancy	1 Builders$^{\mathbf{2\,3\,4}}$	2.61	1.17	55.75	821	.00
	2 Boomers$^{\mathbf{1}\,3\,4}$	3.60	1.03			
	3 GenX$^{\mathbf{1}\,2}$	3.97	.96			
	4 GenY$^{\mathbf{1\,2}}$	4.11	.82			
Social Influence	1 Builders$^{2\,3\,4}$	3.00	1.05	5.52	822	.00
	2 Boomers^{1}	3.30	.83			
	3 GenX^{1}	3.40	.92			
	4 GenY^{1}	3.41	.85			
Facilitating Conditions	1 Builders$^{\mathbf{2\,3\,4}}$	3.10	1.12	23.58	818	.00
	2 Boomers$^{\mathbf{1}\,4}$	3.70	.83			
	3 GenX$^{\mathbf{1}}$	4.00	.80			
	4 GenY$^{\mathbf{1}\,2}$	3.95	.77			
Behavioral Intention	1 Builders$^{\mathbf{2\,3\,4}}$	3.18	1.32	39.68	823	.00
	2 Boomers$^{\mathbf{1}}$	4.14	.88			
	3 GenX$^{\mathbf{1}}$	4.37	.74			
	4 GenY$^{\mathbf{1}}$	4.30	.77			

a:(p<.05), *b*:(p<.01), **c**:(p<.001)

Note. 1 = Builders; 2 = Boomers; 3 = GenX; 4 = GenY; Post Hoc analyses (Scheffe) illustrated by underlining (p<.05), *italicizing* (p<.01), or **bolding** (p<.001) superscripts

Table 4

Generational Differences in UTAUT Determinants and Behavioral Intention to Use Tablets based on estimated marginal means through MANCOVA with hours of tablet use as a covariate

	Generations	*M*	F	df	*p*
Performance Expectancy	1 Builders$^{2\underline{34}}$	3.02	9.60	789	.00
	2 Boomers$^{\underline{1}}$	3.46			
	3 GenX$^{\mathbf{1}}$	3.71			
	4 GenY$^{\mathbf{1}}$	3.65			
Effort Expectancy	1 Builders$^{\mathbf{234}}$	2.70	48.37	789	.00
	2 Boomers$^{\mathbf{1}\underline{3}\underline{4}}$	3.61			
	3 GenX$^{\mathbf{1}\underline{2}}$	3.91			
	4 GenY$^{\mathbf{12}}$	4.11			
Social Influence	1 Builders	3.12	2.26	789	.08
	2 Boomers	3.32			
	3 GenX	3.37			
	4 GenY	3.40			
Facilitating Conditions	1 Builders$^{\mathbf{234}}$	3.14	19.93	789	.00
	2 Boomers$^{\mathbf{1}\textit{4}}$	3.71			
	3 GenX$^{\mathbf{1}}$	3.86			
	4 GenY$^{\mathbf{1}2}$	3.94			
Behavioral Intention	1 Builders$^{\mathbf{234}}$	3.15	37.93	789	.00
	2 Boomers$^{\mathbf{1}}$	4.14			
	3 GenX$^{\mathbf{1}}$	4.37			
	4 GenY$^{\mathbf{1}}$	4.30			

Note. 1 = Builders; 2 = Boomers; 3 = GenX; 4 = GenY; Post Hoc analyses (Scheffe) illustrated by underlining (p<.05), *italicizing* (p<.01), or **bolding** (p<.001) superscripts

Table 5

Prediction of Behavioral Intention to Use Tablets

Predictor	B	SE (B)	β	*Adj. R^2*	*R* Change	F
Block1				.13	.13	27.98***
Age	−.01	.00	−.18			
Gender	.12	.06	.07			
Experience of Tablet Use	.57	.08	.26			
Hours of Tablet Use	−.00	.00	−.05			
Block2				.24	.11	48.35***
Age	−.00	.00	−.08			
Gender	.12	.06	.06			
Experience of Tablet Use	.18	.09	.08			
Hours of Tablet Use	−.01	.00	−.12			
Effort Expectancy	.37	.04	.42			

* p<.01.

** p<.05

*** p<.001

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Table 6

Prediction of Behavioral Intention to Use Tablets with Facilitating Conditions

Predictor	B	SE(B)	β	*Adj. R^2*	R^2 Change	F
Block1				.13	.13	27.82***
Age	−.01	.00	−.18			
Gender	.13	.06	.07			
Experience of Tablet Use	.56	.08	.26			
Hours of Tablet Use	−.00	.00	−.05			
Block2				.24	.11	48.11***
Age	−.00	.00	−.08			
Gender	.12	.06	.07			
Experience of Tablet Use	.17	.09	.08			
Hours of Tablet Use	−.01	.00	−.12			
Effort Expectancy	.37	.04	.42			
Block3				.25	.01	41.56***
Age	−.00	.00	−09			
Gender	.12	.06	.06			
Experience of Tablet Use	.16	.09	.07			
Hours of Tablet Use	−.01	.00	−.12			
Effort Expectancy	.30	.05	.33			
Facilitating Conditions	.14	.05	.13			

* p<.01.

** p<.05

*** p<.001

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