

Determinants of Behavioral Intentions of 'Generation-Y' Adoption and use of Computer-Mediated Communication Tools in Ghana

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ABSTRACT

The ubiquitous nature of information and communication technology can be a very reliable conduit that enables people to share and deliver messages even when they are geographically unbounded. Today, the unbounded nature of the internet has facilitated computer-mediated communication. The emergence of mediated communication tools such as QQ, Wechat, Whatsapp etc have eventually drifted the attention of a whole generation from making phone calls to text messaging. We sampled 1823 students from 15 tertiary institutions across the ten regions of Ghana to answer a question designed on the UTAUT 2 model. Our objective was to determine the distinctive factors influencing the adoption and use of these computer-mediated communication tools among this category of respondents and the presence of intervening mechanism with their identifiable effects. We noted that the odds ratio of 1.751 and a confidence interval of 95%, suggest that females were more likely to use computer mediated communication tools than their male counterparts at a confidence interval of 95% (Sig = 0.002). Similarly, the age group (18-25 years) were 0.726 more likely to use computer mediated communication tools than elderly ones and this was statistically significant at 95% confidence interval (p-value=0.000). Similar significant values were recorded for all the items of UTAUT 2 and perceived convenience.

Keywords: mediated-communication; Generation-Y; Synchronous; Asynchronous; UTAUT 2.

INTRODUCTION

The explosive power of the Internet has opened the world communication channels. This innovative technology has emerged so fast that people have wondered why their lives have come to depend on it. The emergence of mediated communication tools such as QQ, Wechat, Whatsapp etc have eventually drifted a whole generation attention from making phone calls to text messaging. According to Lyons et al. (2014), every generational group emerged within a set time. These generations are decomposed based on some historical considerations and life experiences (Vanderburg 2016).

In the extant literature, much attention has been expressed that draws on the dichotomy of the various generational groups (Lewandowski et al. 2011;

Michailova et al. 2011). A growing argument still lingers as what constitutes the appropriate definition for generation. However, generation can be defined as a specific period of time during which people can be identified by common traits (Corning et al. 2015). 'Generation Y' are also referred as the millennials (Acheampong et al. 2016).

This generational group is believed to be born between 1980 and 1990 (Becton et al. 2014; Cugin 2012). There are numerous studies, which attempt to understand the characteristics of generation-Y such as a self-centeredness and vision (Williams et al. 2015). Generation-Ys are good users of the Internet than their older generations. They have unique drive

to use smart phones which help them to communicate effectively (Kapoor et al. 2011; Xiang et al. 2015).

The proliferation of mobile technologies and applications has made communication very simple and easy (Light et al. 2012; McNaughton et al. 2013). The ubiquitous nature of information and communication technology can be a very reliable conduit that enables people to share and deliver messages even when they are geographically unbounded. Today, the unbounded nature of the Internet has facilitated computer-mediated communication. Computer-mediated communication comes in as both synchronous and asynchronous. Wikipedia, the world's largest online library defines computer-mediated communication (CMC) as any human communication that occurs through the use of two or more electronic devices. The emergence and surge of these computer-mediated tools have demystified personal, social and business forms of communication (Gao et al. 2016; Toure 2014). The pervasiveness and use of synchronous and asynchronous communication tools by Gen-Y is much more evident today. According to Zhao et al. (2012) instant messaging (IM), an internet-based application that provides a platform and environment for near real-time communication between users. Instant messaging helps facilitate interpersonal communications.

The benefits of instant messaging (IM) include the following:

- It provides nearly synchronous communication assisted by presence awareness and pop-up receipt notification
- users can engage in multiple conversations on a one-to-one basis simultaneously through separate windows
- IM allows users to express themselves via multimedia and text messages.

According to (Dabula 2016; Grant 2014) computer mediated tools has transformed Gen-Y learning capabilities. Increased and sustained usage of these technological tools has invariably created more educational opportunities in the lives these millennials. Bill Gates, then Chairman of Microsoft admonished teachers in America to use technology to better serve the needs of the generation kids to grow up with the Internet (Acheampong et al. 2016; Jones et al. 2007; Lukasik et al. 2000). (Golonka et al. 2014; Lee et al. 2011b; Murphy et al. 2011) revealed that, synchronous and asynchronous communication tools have a positive effect on Gen-Ys and their attitude to learning. The media-rich and sophisticated features integrated in today's computer-mediated

communication tools help solve some pertinent needs of individual generation-Y learners. The increasing sophisticated nature of computer-mediated tools has enhanced teaching and learning. Contemporary teaching and learning has taken a new dimension. The Massive Online open Courses (MOOCs) have become popular in recent times due mainly to computer-mediated communication tools. Individuals could take courses which are tailored to their specific needs. Computer-mediated learning alleviates the challenge of place dependence, time dependence etc of learners vis-à-vis traditional mode of learning (Johnston et al. 2015; Mthethwa 2014). According to Murphy et al. (2011), educators on the other hand can enhance classroom activities and teaching if asynchronous and synchronous tools are well utilized. Gen-Y is distinguished from other generational cohorts in its intense exposure to the Internet from a very young age.

Synchronous and Asynchronous Communication Tools

Computer-mediated communications tools come as either asynchronous or synchronous. With reference to (Hsiao 2012; Revere et al. 2011), an asynchronous system is one in which individuals can work at their own places and preferred times, such as e-mail or online conferencing systems. These technologies assist learners to learn at their own pace which allows for thoughtful and reflective thinking (Keengwe et al. 2014; Yang 2011). Asynchronous communication tools can also be used in online instruction (Borup et al. 2012). A study conducted by Bender (2012) and Hevel (2016), revealed 160 graduates used an asynchronous communication for an online study in two separate geographical areas – home and computer lab to respond to messages.

On the hand, synchronous communication tools include video conferencing, webinars, and text chats. Synchronous systems are real-time and happen at same time for individuals engaged in the communication. In the work of Chen et al. (2007), 26 students enrolled in an online introductory psychology class participated in 12 text chat sessions that required them to communicate with others who were also online at the time, but the students accessed the system from various places.

They render immediate feedback, and allow multi-modality communication. They can remove information overload and require less time and effort to maintain social interaction (Martin et al. 2013).

According to (Martin et al. 2012; Oztok et al. 2013), in spite of the convenience offered by synchronous and asynchronous technologies; they have their

disadvantages as well. The advantages to using synchronous technology include more content, psychological arousal, increased motivation, and more social interaction. (Mayes et al. 2011; Ni 2013) cited immediate feedback to students from instructors, reduced feeling of isolation, and a sense of community with the learners as some of the advantages of synchronous interaction. In terms of disadvantages the focus is on quantity not quality, scheduling can be challenging, moderating large groups is difficult, and there is a lack of reflection time. Asynchronous technology advantages are increased ability to process information, more time to comprehend and write messages, and richer content. However, it is difficult to get discussions going with small groups, students feel isolated, the lack of immediate feedback, students not checking in often enough, and less social interaction. Synchronous technologies can be incorporated into online courses for community-building or social learning, whereas asynchronous communication can be integrated for cognitive functions or objective obtainment. A lot of studies have raised arguments that support the inclusion of both asynchronous and synchronous technologies into online courses rather than using either one individually (Martin et al. 2013). Synchronous communication tools are better suited for discussing less complex issues, getting acquainted, or planning tasks. In contrast, asynchronous communication tools are better suited for reflecting on complex issues (Niinimäki et al. 2012). Instructors should choose the technology based on the objective or task being required of students. Synchronous technologies have become more popular as faculty value interactivity in their online courses.

Related Works

Computer-mediated communications tools come as either asynchronous or synchronous. According to Linstone et al. (2011), an asynchronous system is one in which individuals can work at their own places and preferred times, such as e-mail or online conferencing systems. These technologies assist learners to learn at their own pace which allows for thoughtful and reflective thinking (Golonka et al. 2014; Keengwe et al. 2014).

Adoption Models

Over the years, many research papers have given more attention to the adoption and use of IT systems. Recently, many user acceptance models with different determinants are created to measure the user

agreement of information systems which is an important factor to indicate a system success or failure (Lee et al. 2011c; Sundaravej 2010). Each theory or model has been widely tested to predict user acceptance (Holden et al. 2010; Teo 2011). Most of these theories sought to understand the use or intention to use a certain kind of technology. Some of the popular theories that draws on user beliefs, intentions and attitudes include Technology Acceptance Model credited to (Davis 1989), Theory of Reasoned Action (TRA) credited to Fishbein (1979), Theory of planned Behavior (TPB) by Ajzen (1991), Theory of consumption values Sheth et al. (1991) and uses and gratification theory (Blumler 1979). Technology Acceptance model (TAM) was used to predict information technology acceptance and use on the job, in which perceived usefulness and perceived ease of use are the main determinants of the attitudes (Davis 1989). TAM has been applied and extended to study the factors that encourage IM adoption with perceived usefulness as a key motivator (Hsu et al. 2004; Liu et al. 2010). Theory of Planned Behavior (TPB) laid more emphasis on the perceived behavioural control, that is, the perceived ease or difficulty of performing the behavior (Ajzen 1991). Both theories are off-shoot of TRA, which proposes that beliefs influence attitudes that in turn lead to intentions and then consequently generate behaviours (Fishbein 1979).

It is a model drawn from social psychology, and is one of the most important theories of human behavior. In the extant literature, attitude and subjective norms are considered as the determinants of behavior in TRA. (Venkatesh et al. 2003) published a comprehensive result of a study that developed and validated a new research model (Unified Theory of Acceptance and Use of Technology – UTAUT) with seven constructs: performance expectancy, effort expectancy, attitude toward using technology, social influence, facilitating conditions, self-efficacy, and anxiety, which are hypothesized to be fundamental determinants of the user behavioural intention of information technology. These researchers are TRA, TAM, Motivational Model Bagozzi et al. (1992), TPB, a hybrid model combining constructs from TAM and TPB (C-TAM-TPB) , Model of PC Utilization. Venkatesh et al. (2003) proposed UTAUT to test and validate user intention and use of behavior as UTAUT exposed the shortcomings of TAM. Social influence (SI), facilitating conditions (FC), performance expectancy (PE) and effort expectancy (EE) are the four constructs postulated by (Venkatesh et al. 2003).

In this paper, we sought to test and validate UTAUT2 also proposed by Venkatesh et al. (2012) on Generation Y's adoption and use computer-mediated communication tools. It must be noted that Venkatesh et al. (2012) identified three additional constructs to UTAUT which are hedonic motivation, price value and habit with age as one of the moderating factors. UTAUT 2 is well suited for this study since the researchers sought to examine individual's behavioural intention to adopt and use technology. Further, we add perceived convenience as another construct to UTAUT2 to test if it has any effect on Generation-Ys adoption and use of computer-mediated communication tools.

Performance Expectancy

As defined by (Venkatesh et al. 2012), Performance Expectancy (PE) is the belief and conviction an individual holds concerning the use of computer-mediated communication tools. Individual's perceived usefulness of CMCs and its intended advantage to save time and improve efficiency are motivating factors to adopt computer-mediated communication tools. Computer-mediated communication can be customized to suit individual's user preference and experience (Lee et al. 2011a). In their work on Internet Banking, (Al-Ajam et al. 2013; San Martín et al. 2012) revealed that customers with strong PE have high behavioural intention to use internet banking. Venkatesh et al. (2003) postulated the pervasive effect of age on technological adoption. Therefore, we hypothesize that:

- *H1a: Performance expectancy has significant effect on behavioral intention to use computer-mediated communication tools.*
- *H1b: The relationship between performance expectancy with behavioral intention is moderated by age.*

Effort Expectancy

Effort Expectancy (EE) is the degree of simplicity associated with the use of a particular system (Venkatesh et al. 2012). Perceive ease of use as enshrined in TAM shares the same semblance effort expectancy. Individuals' ability to use technology with easy will ultimately retain them for a long time. To buttress this point, (Shen et al. 2011; Yang et al. 2012) posited that end users' direct use experience with the system in terms of changing their perceptions and adoption intentions can be influenced by longer experience in information systems use. Moreover, Martins et al. (2014) in their

work on Internet banking found that effort expectancy has a direct positive impact on behavioural intention. We hypothesize that:

- *H2a: Effort expectancy has a positive inclination on individual's behavioral intention to use computer-mediated communication tools.*
- *H2b: The relationship between effort expectancy with behavioral intention is moderated by age*

Social Influence

Social influence is defined by Venkatesh et al. (2003) as the degree to which an individual perceives the importance of others' beliefs that he or she should use the new system. Naturally, people rely on reviews and recommendations to hook up to a certain technology. In other jurisdiction, personal affiliations have been identified as a facilitating factor on the behavior of users towards usage of computer-mediated communication tools (Chai et al. 2011; Wakefield et al. 2016). Today's social media offer users media-rich content to choose from. Users are today presented with the opportunity to customize applications with sophisticated functions that befits their social status. User's gain experience as they continue to use a particular technology. Venkatesh et al. (2003) suggested that older people are more likely to place increased salience on social influence, with the effect declining with experience. Thus we hypothesize that:

- *H3a: Social influence has significant effect on behavioral intention to use computer-mediated communication tools.*
- *H3b: There is a relationship between social influence and behavioral intention which is moderated by age.*

Facilitating Condition

Facilitating condition is defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support the system use (Venkatesh et al., 2003). Users of any technology expect some kind of support when the need arise. It is very important for designs to help users by embedding user support and feedback systems into computer-mediated communication tools. In accessing computer-mediated communication tools, the aesthetic design could facilitate the behavioral intentions to use computer-mediated tools. Younger users of computer-mediated

communication tools tend to be more adventurous than older users.

Moreover, other conditions such as include costs and other resources associated with such use, and the prior knowledge that users must have before use internet marketing could be used by them. Age have a moderating effect on the relationship between facilitating conditions and the intention to use technology. Older people will emphasize more on facilitating conditions compare to the young people. Hence we hypothesize that:

- *H4a: Facilitating condition has significant relationship with the behavioral intention to use internet marketing.*
- *H4b: The relationship between facilitating condition with behavioral intention is moderated by age.*

Hedonic Motivation

Hedonic motivation is defined as the fun or pleasure derived from using a technology. Hedonic motivation was shown to play an important role in determining technology acceptance and use (Brown et al. 2005). Users like to use technologies that come with novel tools and functionalities. Today most social media platforms come with emoticons which users can access to express their emotions at a point in time. Emojis are quickly becoming an incredibly important part of how people share messages with one another on social media platforms. According to shopify report (2016) reveals that computer-mediated communication platforms take up to 63% of images which have become a novel way to help convey messages. Emojis resonate well with young people because of the fun, cute and quick way of getting a message across. A study carried out by WordStream found that a tweet with an emoji in it had **25.4%** higher engagement than the exact same tweet without an emoji. According to (Thong et al. 2006), perceived enjoyment and fun directly influence users' acceptance and use of technology. Thus, we hypothesize that:

- *H5a: Hedonic motivation has significant relationship with the behavioural intention to use computer-mediated communication tools.*
- *H5b: The relationship between hedonic motivation with behavioral intention is moderated by age.*

Price Value

Customers as social beings are very responsive to price. Their intention to buy or otherwise is premised on the price of a particular technology. Currently most users rely solely on social media to communicate with one another. Currently, most computer-mediated platforms have built-in call functionalities which make it cheaper to place a call. However, this functionality has received a major backlash from many telecommunication companies around the world. There is a strong value proposition on the value of technology and price. Price is of no concern to users when the benefit to be gained from using computer –mediated communications tools is of greater value than the monetary cost. According to Venkatesh et al. (2012) younger people are less sensitive to price than older people. Therefore, we hypothesize that:

- *H6a: Price value has significant relationship with the behavioral intention to use internet marketing.*
- *H6b: The relationship between price value with behavioral intention is moderated by age difference.*

Habit

Limayem et al. (2007) defines habit as the extents to which people tend to perform behaviors automatically because of learning while Isa et al. (2015) equated habit with automaticity. Lewis et al (2013) posited that habit affects behavioral intention toward consumer technology use context, such as e-learning while Barnes et al. (2011) revealed a similar trend on continual use Twitter.

- *H7a: Habit will have significant influence on behavioral intention to use computer-mediated communication tools.*
- *H7b: The relationship between habit with behavioral intention is moderated by age*

Perceived Convenience

Perceived convenience in this study is premised on time and effort users take to use a mediated communication tool. According to Shaw et al. (2016) a product or service is considered to be convenient when it saves time for a user. Technology adoption should have the capability of easing the burdens of it users. On the other hand, a product or service is considered to be convenient when it lowers the cognitive, emotional and physical fears of the user (Alibage et al. 2017; Ladhari et al. 2017). According to Gottschalk (2017) as cited by Acheampong et al.

(2017), consumers' will find an e-payment technology convenient if it does not waste their time and does not need much effort to operate. A product or service is considered to be convenient when it saves time for a user. Perceived convenience share a common semblance with perceived ease of use. In their related work on online banking Weir et al. (2009) found that convenience, control and efficiency are thought to be the main drivers for customers to bank online.

- *H8a: Perceived convenience influences behavioral intention to use computer-mediated communication tools.*
- *H8b: the relationship between habit with behavioral intention is moderated by age.*

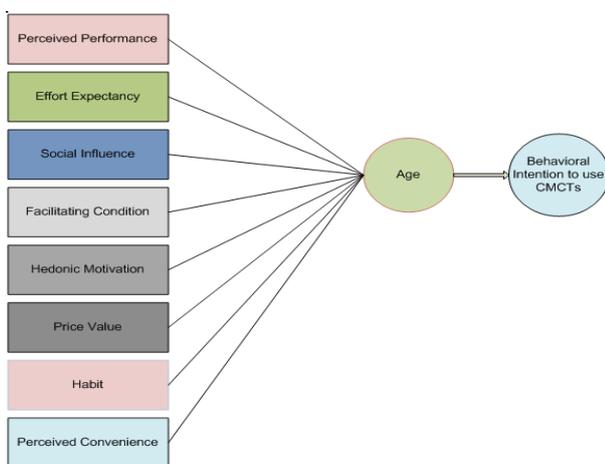


Figure 2.1 Research Framework – Extended UTAUT 2

METHODS AND TOOLS

A target sample of 2000 students was targeted from 15 tertiary institutions across the ten regions of Ghana to fill the questionnaire. The objective was to determine the factors that influence the behavioural intentions of 'Generation-Y' adoption and use of computer-mediated communication tools in Ghana. As in the defined boundaries of the population Generation-Y population was limited to those born after 1990 while computer mediated communication tools of interest includes those electronic devices that can transmit instant messaging, email, chat rooms, online forums, social network services. A closed-ended questionnaire was composed from previous attempts to establish the veracity of UTAUT 2 in Venkatesh et al. (2012). These were then adapted to suit the exigencies of the objectives of the study. Specifically, five questions each were deployed to establish the effect of performance expectancy, effort

expectancy, social influence, facilitating conditions and were adapted from the Venkatesh et al (2003) whereas questions relating to hedonic motivation, price value, habit were adapted from Venkatesh et al. (2012). In line with emerging evidence in the extant literature, the study included perceived convenience. This is a recommendation for future research in Weir et al. (2009). Finally the mediating effect of selected demographic variables was also tested in as second level hypothesis in each case. The variables of interest were age, gender, income level and course of study. These helped to establish differences among categories of students. As the study was related to technology based survey fields, all only online versions of the questionnaire were administered on respective platforms using the survey monkey software. The data was collected over a period of three weeks with the assistance of colleague students. Social media platforms such as facebook, whatsapp, wechat etc and others were used extensively over the period. After a three week period, a total of 1823 questionnaires were successfully completed and these were analysed to test the research hypothesis

DATA ANALYSIS

Firstly a factor analysis was performed to examine the validity of the UTAUT 2 models after which a fitted logistic regression model was used to establish the crude odd ratio of relationship between UTAUT 2 and a behavioural intention and subsequent use of CMCTs. The appropriateness of the data for factor analysis was first performed using the Kaiser–Meyer–Olkin (KMO-MSA) to measure the adequacy of the sample in addition to the Bartlett's Test of Sphericity. The values of KMO recorded exceeded the targeted 6.0 with a significant value for the Bartlett's Test of Sphericity. Next a Varimax rotation and principal components analysis were conducted for factor analysis to eliminate all variables or factors with insignificant factor loading (lower than 0.50). Subsequently, we created a composited score by summing up all the scores for the set of questions under the each variable of interest. The composite scores were then used as dependent variables in the regression models. Prior to this, the Cronbach's alpha reliability analysis was conducted to ensure that all measures of sampling adequacy exceeded the Cronbach's alpha reliability value threshold level of 0.60. None of the items in the questionnaire was eliminated as they all had favorable factor loadings in above 0.50. Finally, we sought evidence to reduce collinearity among the independent variables using the correlation matrix and the variance inflation factors extracted from a simple logistic regression

using the behavior intention and use of computer mediated communication tools as dependent variables.

Analytical Procedure

We constructed a fitted logistic regression model since all items of behavioural intentions and actual use of computer mediated communication tools were measured on a dichotomous scale. We assume that the independent variable, x (behavioural intentions and actual use of computer mediated communication tools), are separately coded as either zero or one. The difference in the logit for a subject with $x = 1$ and $x =$

0 is $g(1) - g(0) = \beta_0 + \beta_1 - \beta_0 = \beta_1$. In order to interpret this result we need to introduce and discuss measure of association termed the odds ratio. The possible values of the logistic probabilities may be conveniently displayed in a 2×2 as shown in Table 1

Table 1: Values of the Logistic Regression Model when the independent variable is dichotomous

Outcome Variable (Y)	Independent Variable (X)	
	x=1	x=0
y = 1	$\pi(1) = \frac{e^{\beta_0 + \beta_1}}{1 + e^{\beta_0 + \beta_1}}$	$\pi(0) = \frac{e^{\beta_0}}{1 + e^{\beta_0}}$
y = 0	$1 - \pi(1) = \frac{1}{1 + e^{\beta_0 + \beta_1}}$	$1 - \pi(0) = \frac{1}{1 + e^{\beta_0}}$
Total	1.0	1.0

The odds of the outcome being present among factors with $x= 1$ is defined as $\pi(1)/[1 - \pi(1)]$. Similarly, the odds of the outcome being present among factors with $x = 0$ is defined as $\pi(0)/[1 - \pi(0)]$. Nevertheless, if the coding scheme is different from the (0,1) then the odds ratio formula needs to be modified, but for the purpose of this study all the dichotomous variables will be coded using the (0, 1) coding scheme. The interpretation given for the odds ratio is based on the fact that in many instances it approximates a quantity called the relative risk. This parameter is equal to the ratio $\frac{\pi(1)}{\pi(0)}$. It follows that

the odds ratio approximates the relative risk iff $[1 - \pi(0)]/[1 - \pi(1)] \approx 1$. This holds when $\pi(x)$ is small for both $x=1$ and 0 . A $100(1 - \alpha)\%$ confidence interval (CI) estimate for the odds ratio is obtained

by first calculating the endpoint of a confidence interval for coefficient, β_1 , and then exponentiating these values.

Under the assumption that the logit is linear in the continuous covariate, x , the equation for the logit is $g(x) = \beta_0 + \beta_1 x$. It follows that the slope coefficient, β_1 gives the change in the log odds for an increase of "1" unit in x , that is $\beta_1 = g(x+1) - g(x)$ for any value of x . Most often the value of "1" is not statistically interesting. Hence to provide a useful interpretation for a continuous scale covariate we need to develop a method for point and interval estimation for an arbitrary change of "c" units in the covariate. The log odds ratio for a change of c units in x is obtained from the logit difference $g(x+c) - g(x) = c\beta_1$ and the associated odds ratio is obtained by exponentiating this logit difference $OR_{(c)} = OR(x+c, x) = \exp(c\beta_1)$. An estimate may be obtained by replacing β_1 with its maximum

likelihood estimate ($\hat{\beta}_1$). An estimate may be obtained of the standard error needed for confidence interval estimation is obtained by multiplying the estimated standard error of ($\hat{\beta}_1$) by c . Hence the endpoints of the $100(1 - \alpha)\%$ confidence interval (CI) estimate of $OR_{(c)}$ are

$$\exp \left[\hat{c}\hat{\beta}_1 \pm Z_{1-\frac{\alpha}{2}} \times cSE(\hat{\beta}_1) \right]$$

Since both the point estimate and endpoints of the confidence interval depends on the choice of c , the particular value of c should be clearly specified in all tables and calculations. Since both the point estimate and endpoints of the confidence interval depends on the choice of c , the particular value of c should be clearly specified in all tables and calculations.

RESULTS

Variable	Estimates	S.E.	Wald	Df	P-Values	e^{β}
Gender	0.573	0.136	17.157	0.970	1.000	1.751
Age	-0.281	0.067	17.253	0.970	1.000	0.726
Level of Education	0.392	0.187	4.245	0.970	1.000	1.453
Performance expectancy	0.163	0.127	1.601	0.970	1.000	1.148
Effort expectancy	0.722	0.377	3.550	0.970	1.000	2.041
Social influence	0.353	0.236	2.175	0.970	1.000	1.396
Facilitating condition	-5.451	0.505	112.805	0.970	1.000	0.004
Hedonic motivation	0.598	0.252	5.461	0.970	1.000	1.797
Price	0.091	0.232	0.151	0.970	1.000	1.066
Habit	-0.383	0.228	2.711	0.970	1.000	1.065
Perceived Convenience	0.349	0.669	0.264	0.970	1.000	0.677
Constant	2.945	0.320	81.925	0.970	1.000	20.203

Table 2: Logistic Regression Predicting Likelihood of Use of Computer-Mediated communication Tools

The information in table 2, provides the odd ratio analysis of the likelihood of use of computer-mediated communication tools based on the UTAUT 2 variables and the mediating factors. Firstly it is observed that the odds ratio of 1.751 and a confidence interval of 95%, suggest that females were more likely to use computer mediated communication tools than their male counterparts at a confidence interval of 95% (Sig = 0.002). Similarly, the age group (18-25 years) were 0.726 more likely to use computer mediated communication tools than elderly ones and this was statistically significant at 95% confidence interval (p-value=0.000). Additionally, the odds ratio of 1.453 and a confidence interval of 95%, indicates that people with high income are more likely to use computer mediated communication tools than those with lower income levels giving a similar statistically significant results. The results also shows that performance expectancy is 1.148 as likely to promote the use of computer mediated communication tools at 95% confidence interval (p-value=0.036). Consistent with the extant literature, the analysis shows that effort expectancy and social influence were 2.041 and 1.396 times likely to influence the adoption and use of computer mediated communication tools respectively and each of these is statistically significant at 95% confidence interval. Regarding the role of facilitating conditions, hedonic motivation and price, we observed a crude odd ratio of 0.004, 1.797 and 1.066 respectively; an indication of their significant influence on the adoption and use of computer mediated communication tools among "Generation Y" respondents. These were statistically significant as the effect of Habit and our added Perceived Convenience which recorded a crude odd ratio value of 1.065 and 0.677 at 95% significant level.

CONCLUSIONS

At the onset, we disclosed that the emergence of mediated communication tools such as QQ, Wechat, Whatsapp etc have eventually drifted a whole generation attention from making phone calls to text messaging. According to Lyons et al. (2014), every generational group emerged within a set time. These generations are decomposed based on some historical considerations and life experiences. The results of this study reveal the validity in the claim in respect individual's perceived usefulness of CMCTs and its intended advantage to save time and improve efficiency are motivating factors to adopt computer-mediated communication tools. Subsequently it is also evident (Shen et al. 2011; Yang et al. 2012) that end users' direct use experience with the system in terms of changing their perceptions and adoption intentions can be influenced by longer experience in information systems use. This is as valid as the people's natural inclination to rely on reviews and recommendations to hook up to a certain technology. Regarding, the view that users of any technology expect some kind of support when the need arise, the evidence is significantly in favour of this notion. It is very important for designers to help users by embedding user support and feedback systems into computer-mediated communication tools. Further, the analysis confirms the validity of the mediating role of age, educational level and gender on individual's inclination to use computer-mediated communication tools.

References

- [1]. Acheampong, P., Zhiwen, L., Abubakar, R., Antwi, H. A., and Akomeah, M. O. 2016. "Stimulants of Online Shopping Behaviour among Chinese Millenials in China," *International Journal of Academic Research in Business and Social Sciences* (6:5), pp 331-349.
- [2]. Acheampong, P., Zhiwen, L., Antwi, H. A., Otoo, A. A. A., Mensah, W. G., and Sarpong, P. B. 2017. "Hybridizing an Extended Technology Readiness Index with Technology Acceptance Model (TAM) to Predict E-Payment Adoption in Ghana," *American Journal of Multidisciplinary Research* (5:2).

- [3]. Ajzen, I. 1991. "The theory of planned behavior," *Organizational behavior and human decision processes* (50:2), pp 179-211.
- [4]. Al-Ajam, A. S., and Nor, K. M. 2013. "Internet banking adoption: integrating technology acceptance model and trust," *European Journal of Business and Management* (5:3), pp 207-215.
- [5]. Alibage, A., and Jetter, A. 2017. "Drivers of Consumers' Emotional Engagement with Everyday Products: An Intensive Review of the Literature and an Attempt to Conceptualize the Consumer-Product Interactions Within the Emotional Design Process,").
- [6]. Bagozzi, R. P., Davis, F. D., and Warshaw, P. R. 1992. "Development and test of a theory of technological learning and usage," *Human relations* (45:7), pp 659-686.
- [7]. Barnes, S. J., and Böhringer, M. 2011. "Modeling use continuance behavior in microblogging services: The case of Twitter," *Journal of Computer Information Systems* (51:4), pp 1-10.
- [8]. Becton, J. B., Walker, H. J., and Jones-Farmer, A. 2014. "Generational differences in workplace behavior," *Journal of Applied Social Psychology* (44:3), pp 175-189.
- [9]. Bender, T. 2012. *Discussion-based online teaching to enhance student learning: Theory, practice and assessment*, (Stylus Publishing, LLC).
- [10]. Blumler, J. G. 1979. "The role of theory in uses and gratifications studies," *Communication research* (6:1), pp 9-36.
- [11]. Borup, J., West, R. E., and Graham, C. R. 2012. "Improving online social presence through asynchronous video," *The Internet and Higher Education* (15:3), pp 195-203.
- [12]. Brown, S. A., and Venkatesh, V. 2005. "Model of adoption of technology in households: A baseline model test and extension incorporating household life cycle," *MIS quarterly*, pp 399-426.
- [13]. Chai, S., Das, S., and Rao, H. R. 2011. "Factors affecting bloggers' knowledge sharing: An investigation across gender," *Journal of Management Information Systems* (28:3), pp 309-342.
- [14]. Chen, Y., Liu, C., and Wong, R. 2007. "The adoption of synchronous and asynchronous media in the teaching of a second language," *Issues in Information Systems* (3:1), pp 217-223.
- [15]. Cogin, J. 2012. "Are generational differences in work values fact or fiction? Multi-country evidence and implications," *The International Journal of Human Resource Management* (23:11), pp 2268-2294.
- [16]. Corning, A., and Schuman, H. 2015. *Generations and collective memory*, (University of Chicago Press).
- [17]. Dabula, N. 2016. *The influence of social media political marketing on trust, loyalty and voting intention of youth voters in South Africa*.
- [18]. Davis, F. D. 1989. "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS quarterly*, pp 319-340.
- [19]. Fishbein, M. 1979. "A theory of reasoned action: some applications and implications,").
- [20]. Gao, Q., and Feng, C. 2016. "Branding with social media: User gratifications, usage patterns, and brand message content strategies," *Computers in Human Behavior* (63), pp 868-890.
- [21]. Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., and Freynik, S. 2014. "Technologies for foreign language learning: a review of technology types and their effectiveness," *Computer Assisted Language Learning* (27:1), pp 70-105.
- [22]. Gottschalk, P. 2017. "Empirical Study of Convenience Theory: A Student Elicitation on White-Collar Crime," *Deviant Behavior*, pp 1-11.
- [23]. Grant, D. S. 2014. *Has social media begun to "sponsor" addiction recovery?: A study of face-to-face versus online sobriety support*, Fielding Graduate University.
- [24]. Hevel, J. 2016. *Online college instructor perceptions of computer-mediated*

- communication, classroom factors, and social presence, University of Phoenix.
- [25]. Holden, R. J., and Karsh, B.-T. 2010. "The technology acceptance model: its past and its future in health care," *Journal of biomedical informatics* (43:1), pp 159-172.
- [26]. Hsiao, E.-L. 2012. "Synchronous and asynchronous communication in an online environment: Faculty experiences and perceptions," *Quarterly Review of Distance Education* (13:1), p 15.
- [27]. Hsu, C.-L., and Lu, H.-P. 2004. "Why do people play on-line games? An extended TAM with social influences and flow experience," *Information & management* (41:7), pp 853-868.
- [28]. Isa, S. M., and Wong, K.-Y. 2015. "Age Differences in Behavioral Intention to Use Internet Marketing: A Comparative Study between Malaysian and Taiwanese," *International Journal of Business and Society* (16:3), p 386.
- [29]. Johnston, K., Conneely, C., Murchan, D., and Tangney, B. 2015. "Enacting key skills-based curricula in secondary education: lessons from a technology-mediated, group-based learning initiative," *Technology, Pedagogy and Education* (24:4), pp 423-442.
- [30]. Jones, V., Jo, J., and Martin, P. Year. "Future Schools and How Technology can be used to support Millennial and Generation-Z Students," *ICUT 2007 (Proc. B)*, 1st Int. Conf. Ubiquitous Information Technology 2007, pp. 886-891.
- [31]. Kapoor, C., and Solomon, N. 2011. "Understanding and managing generational differences in the workplace," *Worldwide Hospitality and Tourism Themes* (3:4), pp 308-318.
- [32]. Keengwe, J., Onchwari, G., and Agamba, J. 2014. "Promoting effective e-learning practices through the constructivist pedagogy," *Education and Information Technologies* (19:4), pp 887-898.
- [33]. Ladhari, R., Souiden, N., and Dufour, B. 2017. "The role of emotions in utilitarian service settings: The effects of emotional satisfaction on product perception and behavioral intentions," *Journal of Retailing and Consumer Services* (34), pp 10-18.
- [34]. Lee, H. H., and Chang, E. 2011a. "Consumer attitudes toward online mass customization: An application of extended technology acceptance model," *Journal of Computer-Mediated Communication* (16:2), pp 171-200.
- [35]. Lee, S. W.-Y., and Tsai, C.-C. 2011b. "Students' perceptions of collaboration, self-regulated learning, and information seeking in the context of Internet-based learning and traditional learning," *Computers in human behavior* (27:2), pp 905-914.
- [36]. Lee, Y.-H., Hsieh, Y.-C., and Ma, C.-Y. 2011c. "A model of organizational employees' e-learning systems acceptance," *Knowledge-based systems* (24:3), pp 355-366.
- [37]. Lewandowski, J., Rosenberg, B. D., Parks, M. J., and Siegel, J. T. 2011. "The effect of informal social support: Face-to-face versus computer-mediated communication," *Computers in Human Behavior* (27:5), pp 1806-1814.
- [38]. Light, J., and McNaughton, D. 2012. "Supporting the communication, language, and literacy development of children with complex communication needs: State of the science and future research priorities," *Assistive Technology* (24:1), pp 34-44.
- [39]. Limayem, M., Hirt, S. G., and Cheung, C. M. 2007. "How habit limits the predictive power of intention: The case of information systems continuance," *MIS quarterly*, pp 705-737.
- [40]. Linstone, H. A., and Turoff, M. 2011. "Delphi: A brief look backward and forward," *Technological Forecasting and Social Change* (78:9), pp 1712-1719.
- [41]. Liu, Y., Li, H., and Carlsson, C. 2010. "Factors driving the adoption of m-learning: An empirical study," *Computers & Education* (55:3), pp 1211-1219.
- [42]. Lukasik, S. J., Baran, P., Roberts, L. G., Kleinrock, L., Crocker, S. D., White, J., Cohen, D., Metcalfe, B., Callon, R., and Gates, W. H. 2000. "Millennial Forecasts," *IEEE Internet Computing* (4:1), p 47.

- [43]. Lyons, S., and Kuron, L. 2014. "Generational differences in the workplace: A review of the evidence and directions for future research," *Journal of Organizational Behavior* (35:S1).
- [44]. Martin, F., Parker, M., and Allred, B. 2013. "A Case Study on the Adoption and Use of Synchronous Virtual Classrooms," *Electronic journal of E-learning* (11:2), pp 124-138.
- [45]. Martin, F., Parker, M. A., and Deale, D. F. 2012. "Examining interactivity in synchronous virtual classrooms," *The International Review of Research in Open and Distributed Learning* (13:3), pp 228-261.
- [46]. Martins, C., Oliveira, T., and Popovič, A. 2014. "Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application," *International Journal of Information Management* (34:1), pp 1-13.
- [47]. Mayes, R., Luebeck, J., Ku, H.-Y., Akarasriworn, C., and Korkmaz, Ö. 2011. "Themes and strategies for transformative online instruction: A review of literature and practice," *Quarterly Review of Distance Education* (12:3), p 151.
- [48]. McNaughton, D., and Light, J. 2013. "The iPad and mobile technology revolution: Benefits and challenges for individuals who require augmentative and alternative communication," Taylor & Francis.
- [49]. Michailova, S., and Sidorova, E. 2011. "From group-based work to organisational learning: the role of communication forms and knowledge sharing," *Knowledge Management Research & Practice* (9:1), pp 73-83.
- [50]. Mthethwa, M. P. 2014. *The utility of Mobile-Assisted Language Learning (MALL): ESL students' beliefs about new literacy in Swaziland*, (Southern Illinois University at Carbondale).
- [51]. Murphy, E., Rodríguez-Manzanares, M. A., and Barbour, M. 2011. "Asynchronous and synchronous online teaching: Perspectives of Canadian high school distance education teachers," *British Journal of Educational Technology* (42:4), pp 583-591.
- [52]. Ni, A. Y. 2013. "Comparing the effectiveness of classroom and online learning: Teaching research methods," *Journal of Public Affairs Education*), pp 199-215.
- [53]. Niinimäki, T., Piri, A., Lassenius, C., and Paasivaara, M. 2012. "Reflecting the choice and usage of communication tools in global software development projects with media synchronicity theory," *Journal of Software: Evolution and Process* (24:6), pp 677-692.
- [54]. Oztok, M., Zingaro, D., Brett, C., and Hewitt, J. 2013. "Exploring asynchronous and synchronous tool use in online courses," *Computers & Education* (60:1), pp 87-94.
- [55]. Revere, L., and Kovach, J. V. 2011. "Online technologies for engaged learning: A meaningful synthesis for educators," *Quarterly Review of Distance Education* (12:2), p 113.
- [56]. San Martín, H., and Herrero, Á. 2012. "Influence of the user's psychological factors on the online purchase intention in rural tourism: Integrating innovativeness to the UTAUT framework," *Tourism Management* (33:2), pp 341-350.
- [57]. Shaw, N., and Sergueeva, K. 2016. "Convenient or Useful? Consumer Adoption of Smartphones for Mobile Commerce,").
- [58]. Shen, A. X., Cheung, C. M., Lee, M. K., and Chen, H. 2011. "How social influence affects we-intention to use instant messaging: The moderating effect of usage experience," *Information Systems Frontiers* (13:2), pp 157-169.
- [59]. Sheth, J. N., Newman, B. I., and Gross, B. L. 1991. "Why we buy what we buy: A theory of consumption values," *Journal of business research* (22:2), pp 159-170.
- [60]. Sundaravej, T. 2010. "Empirical validation of unified theory of acceptance and use of technology model," *Journal of Global Information Technology Management* (13:1), pp 5-27.
- [61]. Teo, T. 2011. "Factors influencing teachers' intention to use technology: Model

- development and test," *Computers & Education* (57:4), pp 2432-2440.
- [62]. Thong, J. Y., Hong, S.-J., and Tam, K. Y. 2006. "The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance," *International Journal of Human-Computer Studies* (64:9), pp 799-810.
- [63]. Toure, A. R. 2014. *Diffusion of Social Network Technology and Overuse among Health Industry Knowledge Workers*, Walden University.
- [64]. Vanderburg, W. H. 2016. *The Growth of Minds and Culture: A Unified Interpretation of the Structure of Human Experience*, (University of Toronto Press).
- [65]. Venkatesh, V., Morris, M. G., Davis, G. B., and Davis, F. D. 2003. "User acceptance of information technology: Toward a unified view," *MIS quarterly*, pp 425-478.
- [66]. Venkatesh, V., Thong, J. Y., and Xu, X. 2012. "Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology,").
- [67]. Wakefield, R., and Wakefield, K. 2016. "Social media network behavior: A study of user passion and affect," *The Journal of Strategic Information Systems* (25:2), pp 140-156.
- [68]. Weir, C. S., Douglas, G., Carruthers, M., and Jack, M. 2009. "User perceptions of security, convenience and usability for ebanking authentication tokens," *Computers & Security* (28:1), pp 47-62.
- [69]. Williams, S., and Turnbull, S. 2015. "Developing the next generation of globally responsible leaders: Generation Y perspectives and the implications for green HRD," *Advances in Developing Human Resources* (17:4), pp 504-521.
- [70]. Xiang, Z., Magnini, V. P., and Fesenmaier, D. R. 2015. "Information technology and consumer behavior in travel and tourism: Insights from travel planning using the internet," *Journal of Retailing and Consumer Services* (22), pp 244-249.
- [71]. Yang, S., Lu, Y., Gupta, S., Cao, Y., and Zhang, R. 2012. "Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits," *Computers in Human Behavior* (28:1), pp 129-142.
- [72]. Yang, Y.-F. 2011. "Engaging students in an online situated language learning environment," *Computer Assisted Language Learning* (24:2), pp 181-198.
- [73]. Zhao, L., and Lu, Y. 2012. "Enhancing perceived interactivity through network externalities: An empirical study on micro-blogging service satisfaction and continuance intention," *Decision Support Systems* (53:4), pp 825-834.