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MEDIATING EFFECTS OF BEHAVIORAL INTENTION BETWEEN 3G PREDICTORS AND SERVICE SATISFACTION

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Abstract
This paper looks at the factors that affect the adoption and satisfaction with third generation (3G) mobile phones among students at a private university in Somalia from the perspective of the Unified Theory of Acceptance and Use of Technology (UTAUT. Specifically, the objectives of the study are to 1) examine the effect of performance expectancy on students' intention to adopt 3G; 2) explore the effect of effort expectancy on students' intension; 3) look at the effect of social influence on students' intention; 4) examine the effect of perceived expense on students' intention; 5) test the effect of intention on students' satisfaction with the service; and finally 6) test the mediating effect of intention between 3G predictors and satisfaction with the service. The study uses proportionate stratified random sampling procedure, where the faculty and gender were the main strata. The data were collected in June 2013 and a total of 395 students responded to the study. The data was analyzed using SPSS version 17.0 to answer research objectives and test its hypotheses. Using multiple Step-Wise regression, the results suggested that performance expectancy (β=.158, t=2.850, p=.005), effort expectancy (β=.106, t=2.094, p=.037), social influence (β=.358, t=6.888, p=.000), and perceived expense (β=.165, t=3.872, p=.000) had significant and positive effects on students' intention to adopt 3G mobile technology. However, social influence (β=.358) was the best

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predictor for the students' intention followed by perceived expense (β=.165). Furthermore, behavioral intention significantly mediated the relationships of predictors with satisfaction. Implications and future research scope are discussed.

Keywords: *3G mobile; UTAUT; social influence; effort expectancy; performance expectancy*

KESAN PERANTARAAN TINGKAH LAKU ANTARA PERAMAL 3G DAN KEPUASAN PERKHIDMATAN

Abstrak

Kertas kerja ini meneliti faktor yang memberi kesan kepada penerimaan dan kepuasan telefon bimbit generasi ketiga (3G) dalam kalangan pelajar universiti swasta di Somalia dari perspektif Unified Theory of Acceptance and Use of Technology (UTAUT). Khususnya, objektif kajian adalah UNTUK 1) melihat jangkaan prestasi tujuan pelajar menerima 3G; 2) meneliti kesan jangkaan usaha tujuan pelajar; 3) melihat kesan pengaruh sosial tujuan pelajar; 4) melihat kesan jangkaan persepsi pelajar keatas tujuan pelajar; 5) menguji kesan tujuan keatas kepuasan pelajar dengan perkhidmatan yang diberi; 6) menguji kesan penambat tujuan diantara peramal 3G dengan kepuasan perkhidmatan. Kajian ini menggunakan prosedur sampel berkala berstrata dimana fakulti dan jantina adalah strata utamanya. Data dikutip pada bulan Jun 2013 dan seramai 395 mengambil bahagian. Data dianalisis menggunakan SPSS Versi 17 untuk menjawab soalan kajian dan menguji hipotesis. Dengan menggunakan Regresi Berganda Step-Wise, keputusan kajian menunjukkan jangkaan prestasi ((β=.158, t=2.850, p=.005), jangkaan usaha (β=.106, t=2.094, p=.037), pengaruh sosial (β=.358, t=6.888, p=.000), dan persepsi perbelanjaan (β=.165, t=3.872, p=.000) terdapat kesan yang positif dan signifikan keatas tujuan pelajar untuk menerima teknologi mobil 3G. Walaubagaimana pun, pengaruh sosial (β=.358) adalah peramal terbaik bagi tujuan pelajar diikuti dengan persepsi perbelanjaan (β=.165). Lagi pun, tujuan tingkah laku menambat hubungan peramal dengan kepuasan. Implikasi dan skop kajian ada dibincangkan.

Kata kunci: *3G mobil; UTAUT; pengaruh sosial; jangkaan usaha; jangkaan prestasi*

INTRODUCTION

Third generation (3G) technology is an upgraded version of the first and second generations of mobile communication technology. The 3G is different from previous versions in several aspects; however, the most important aspect is data transmission (Zhuang, Xiaoyan, & Yan, 2009). Users of 3G can enjoy higher speed, clear hearing of the voices, browsing the websites in comfortable ways. Zhuang et al. (2009) described three key services that the 3G provides, namely mobile internet, multimedia, and audio and video services, arguing that 3G technology provides convenience and pleasant enjoyment to the people.

3G technology is globally popular and widely adopted by different segments of world populations. With the introduction of new and advanced mobile devices, the 3G technology had become essential for most of the people. Using this technology, they are daily connected to the world, interacting with friends, family, business partners, and others. They can follow the events and happenings in the world and get instant updates about the new events.

Moreover, the technology was launched in most countries in the world at the beginning of the twenty-first century. Japan was the first country in the world to launch 3G mobile technology (Abu, 2010). The author mentioned that NTT Docomo, a leading Japanese telecommunication company, launched its 3G in October 2001, followed by other major telecommunication companies in the country.

In Somalia, *Hormuud* Telecom, a leading telecommunication company in the county launched 3G mobile technology in December 2012 particularly in south-central regions of the county. This technology had attracted the attention of people and was expected to have greater impact on the recovery of the economic sector in the country (Hussein, 2013). *Hormuud* Telecom was the first company that introduced 3G mobile network to south-central regions (Hortel, 2013). Although, the 3G was introduced later to the country as compared to other countries in Asia and Europe, which already started to test 4G mobile network, the subscription was overwhelmingly increased (Hussein, 2013).

Very little is known about the current status of 3G technology usage and adoption among Somalis. Therefore, this study investigates the factors influencing the adoption and satisfaction with 3G technology among students in a private university in Mogadishu, Somalia. In addition, the study tests the mediating effect of behavioral intention between predictors and satisfaction with 3G technology. The study will enrich the existing literature on the 3G adoption particularly from the developing countries' perspective.

TELECOMMUNICATIONS SECTOR IN SOMALIA

Despite the chaotic situation and political instability in Somalia, telecommunication sector in the country is overwhelmingly evolved during the last decade. There are several telecommunication companies that provide fixed

and mobile phone services. The major service providers include Somali Telecom, *Hormuud* Telecom, *Nationlink*, and *Golis*. All these provide fixed line telephone to the households for 10 US dollar per month with unlimited local calls (Osman, 2013). The telecommunication sector charges the lowest call rate in the whole of the African continent (CIA World Factbook, 2013), making the market to offer too competitive services that meet the needs and expectations of the consumers. Telecommunication companies in the country are contributing to the economic development and become the biggest revenue generators (Baidaomedia, 2013).

Major telecom companies also provide mobile banking services. *Hormuud* and *Nationlink,* which compete for the southern regions market, provide EVC Plus and E-Maal mobile money transfer services respectively. While *Golis* Telecom in northeastern regions and *Somali Telecom* in northern regions provide *SAHAL* and ZAAD mobile money transfer services respectively (Mohamed, 2013). By using these services, people can send and receive money through their mobile phone. They can recharge their balance using the airtime service.

These companies provide other important services. These include 3G mobile phone network, which refers to the third generation mobile telecommunication network. *Hormuud* Telecom was the first to introduce 3G technology to the southern regions at the end of 2012. This service will provide further improvement for the poor internet access and will be benefited by the students, academician, businessmen and the entire public.

UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY

Venkatesh, Morris, Davis, and Davis (2003) developed Unified Theory of Acceptance and Use of Technology (UTAUT). The theory is based on eight existing theories on the technology acceptance field. These include Technology Acceptance Model, Theory of Reasoned Action, the Motivational Model, the Theory of Planned Behavior, the Innovation Diffusion Theory, the Model of PC Utilization, Social Cognitive Theory, and a Model Combining the Technology Acceptance Model and the Theory of Planned Behavior.

Venkatesh et al.'s (2003) asserted that UTAUT theory consisted of four major determinants of behavioral intention and use, as well as four major moderators. The four predicts include social influence, effort expectancy, performance expectancy, and facilitating conditions, whereas the four moderators were gender, age, experience, and voluntariness of use. Venkatesh et al. (2003) conducted several studies to validate their theory and found empirical support for their model.

The UTAUT theory was later tested across cultural boundaries. Oshlyansky, Cairns, and Thimbleby (2007) validated the theory cross-culturally by applying to nine different countries in different continents. Their study proved that the theory is "robust enough to withstand translation and to be used cross-culturally, outside its original country and language of origin" (p.5).

Moreover, Venkatesh and Zhang (2010) conducted a longitudinal study to validate the UTAUT theory cross-culturally, focusing mainly on differences and similarities between US and China. Despite the US was the original home for the theory, their results supported the universality of the theory. The only difference they found was about the moderation role of gender, age, and voluntariness, which were not significant in the context of China. Venkatesh and Zhang (2010) found that the four predictors in the original model explained 70 percent of variance in behavioral intention, whereas 64 percent of variance were observed in the context of China. They further elaborated this and suggested that the national culture plays an essential role in the theory.

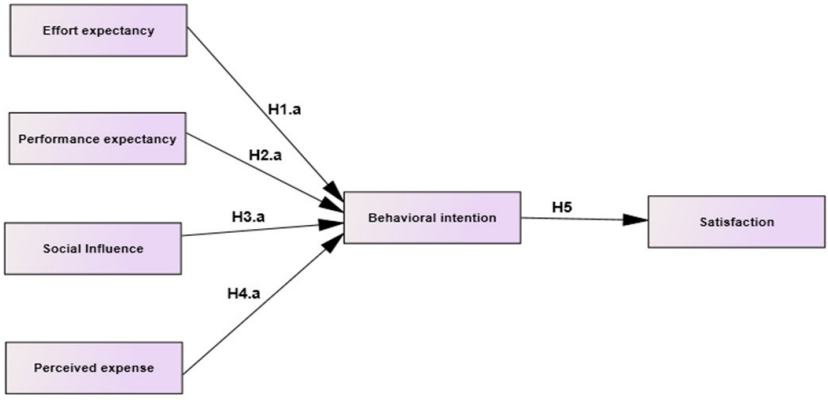
UTAUT AND 3G TECHNOLOGY

UTAUT theory was found to have a predictive explanation about the behavioral intention and use of a new technology (Venkatesh et al., 2003; Venkatesh & Zhang, 2010). However, little is known about it explanation in the context of 3G technology adoption. Wu, Tao, and Yang (2007) conducted a study based on the UTAUT theory to examine the determinants of 3G telecommunication mobile service intention to adopt and use among Taiwanese respondents. (Wu et al. (2007) found that facilitating conditions, performance expectancy, and social influence are the robust predictors of behavioral intention to adopt 3G service, whereas effort expectancy did not influence intention to adopt this technology among respondents.

Furthermore, Wu e al.'s study suggested direct relationships of use behavior with the four main predictors. Integrating UTAUT and TAM models, Mardikyan, Beşiroğlu, and Uzmaya (2012) found that behavioral intention to adopt 3G technology among Turkish consumers was predicted by perceived usefulness, service quality, variety of service, price, and social influence. Therefore, the current study enriches the literature on the prediction of 3G technology adoption from the perspective of UTAUT theory.

RESEARCH FRAMEWORK

The current study is based on the UTUAT model to examine the effects of performance expectancy, effort expectancy, social influence, and perceived expense on behavioral intention to adopt 3G technology among Somali students. In addition, the study examines the effect of behavioral intention on satisfaction, as well as its mediating effect between the predictors and satisfaction.



Note: H1.b, H2.b, H3.b & H4.b are for indirect effects of predictors on satisfaction through intention

Figure 1: Research Framework

The UTAUT theory proposes four key determinants; however, this study extends the theory by incorporating two more constructs that are special for the 3G context, namely perceived expense and satisfaction. The consumers' perception about the price of the 3G technology determines the adoption and continuance of the service (Du, Zhu, Zhao, & Lv, 2012; Kuo & Yen, 2009; Teng, Lu, & Yu, 2009).

As shown in Figure 1, the extended UTAUT model consists of four key predictors, namely effort expectancy, performance expectancy, social influence, and perceived expense. Satisfaction is the only criterion variable whereas behavioral intention is assumed to mediate the relationship between the four predictors and satisfaction with the 3G technology.

Effort expectancy

Effort expectancy is defined as the "degree of ease associated with the use of the system" (Venkatesh et al., 2003; p.450). It means that if the students perceive that the 3G technology is easy to use, they more likely to adopt it; recommend for their friends and family members. Despite effort expectancy was found to be a key predictor for the use of a technology in the original model(Venkatesh et al., 2003; Venkatesh & Zhang, 2010), other studies found to be insignificant predictor of the intention to adopt mobile banking (Yu, 2012). Venkatesh et al. (2003) said that three constructs (perceived ease of use, complexity, and ease of use) from other models have similar meanings with effort performance construct. As such, perceived ease of use was found to have significant effect on intention to use 3G technology among Malaysians (Suki, 2012), and through attitude among Taiwanese (Kuo & Yen, 2009). In addition, perceived compatibility was found to be a predictor of intention to use 3G service among university students in Malaysia(Ong, Poong, & Ng, 2008). Therefore, the current study posits that:

H1.a: effort expectancy would have significant positive effect on students' intention to adopt 3G technology.

H1.b: intention will mediate the relationship between effort expectancy and students' satisfaction with the service.

Performance expectancy

Performance expectancy is defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance"(Venkatesh et al., 2003; p.447). In this study, this construct means the degree that students perceive that the use of 3G technology is useful for their daily live. The more the students perceived this technology to be useful, the more they adopt it and recommend to others. As outlined by Venkatesh et al. (2003), five constructs in the existing models capture the meaning of this construct, namely perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectation. Perceived usefulness (Suki, 2012) and relative advantage (Ong et al., 2008) were predictors of intention to adopt 3G technology among Malaysians. Chong, Ooi, Lin, and Bao (2012) found perceived usefulness to be a predictor of intention to use 3G service among Chinese consumers. However, perceived usefulness was not a predictor of behavioral intention in the context of Taiwan(Kuo & Yen, 2009; Liao, Tsou, & Huang, 2007). With the contradicting results, this study hypothesizes that:

H2.a: performance expectancy would have significant positive effect on students' intention to adopt 3G technology.

H2.b: intention will mediate the relationship between performance expectancy and students' satisfaction with the service.

Social influence

Social influence is defined as "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003, p.451). In this study, it means that if the students' friends, lecturers, family members and their social surroundings recommended the use of 3G technology; they are more likely to adopt it and recommend it as well to others. It should be noted that the image, social factors, and subjective norms in other existing models are similar to the social influence construct (Venkatesh et al., 2003). Therefore, social influence was found as good predictor of behavioral intention to use a new technology (Venkatesh et al., 2003; Venkatesh & Zhang, 2010). In the context of 3G technology, social influence significantly predicted behavioral intention to use 3G service among Chinese (Du et al., 2012) and Turkish consumers (Mardikyan et al., 2012). In addition, Ong et al. (2008) found perceived image to be a significant predictor of intention use 3G technology among Malaysians. Based on this literature, the following hypothesis was developed:

H3.a: social influence would have significant positive effect on students' intention to adopt 3G technology.

H3.b: intention will mediate the relationship between social influence and

students' satisfaction with the service.

Perceived expense

Perceived expense is related to the expectations and evaluations made by the consumers comparing the expenses and benefits of the service (Teng et al., 2009). It means that if the students perceive that the 3G technology is cheap and affordable according to their budget, they are more likely to adopt it and recommend to others. There are similar concepts that capture the meaning of this construct, as found in the literature, namely perceived cost, perceived financial cost, and perceived price. Perceived expense significantly and positively predicted behavioral intention to use 3G technology among Taiwanese consumers(Teng et al., 2009). Du et al. (2012) found perceived price to have negative effect on the behavioral intention to use 3G technology among Chinese consumers. In addition, Ong et al. (2008) and Mardikyan et al. (2012) found that perceived financial cost and price were positively correlated with the intention to use 3G technology among Malaysian and Turkish consumers respectively. As such, this study postulates that:

H4.a: perceived expense would have significant positive effect on students' intention to adopt 3G technology.

H4.b: intention will mediate the relationship between perceived expense and students' satisfaction with the service.

Intention

Behavioral intention in this study refers to the extent students tend to continue using the 3G technology in the short and long terms and their willingness to recommend to others such as their friends, family members and other social surroundings. There is limited knowledge in the literature about the effect of behavioral intention on satisfaction with service. For instance, Jin an Li (2011) found differences in use-diffusion patterns in terms of satisfaction with 3G technology among Chinese consumers. This variable (satisfaction) was also correlated with some demographics such as gender, age, education, and family income (Golden, & Gopalakrishanan, 2013). Miyamoto, Kudo, and Iizuka (2012) found that behavioral intention significantly influenced the user's satisfaction with Enterprise Resources Planning (ERP) project among Japanese. Perceived usefulness and perceived ease of use had significant impact on behavioral intention, which in turn, influenced the users' satisfaction. However, this study posits that:

H5: intention would have significant positive effect on students' satisfaction with 3G technology.

METHODOLOGY

Research design and sampling process

This study uses cross-sectional survey to collect the required data from

respondents. The population of this study is all students in SIMAD University in Mogadishu, Somalia. This university was chosen because it is one of the leading educational institutions in the country as well as it primer focus on technology-related fields. The study employs proportionate stratified random sampling technique where the main strata were based on gender and faculty. Five hundred questionnaires were distributed to the students during the classes after obtaining permission from the respective lecturers. The questionnaires were also distributed to the students outside the classes in order to maintain the predefined proportions. The questionnaire consisted of two sections. The first section gathered the demographic profile such as gender, age, level of study, and marital status; whereas, the second section was about the main focus of this study and gathered students' responses regarding the six main variables namely, effort expectancy, performance expectancy, social influence, perceived expense, intention, and satisfaction. After eliminating incomplete questionnaires (n=17), a total of 395 respondents were analyzed for the current study.

The data were collected in June 2013 and was keyed-in the Statistical Package for Social sciences (SPSS) version 17.0. Both descriptive and inferential statistics were reported. Bivariate correlation and linear multiple regression were used to test the hypothesized model.

Measures of the Study

This study adopted six variables from previous studies and applied it to the context of Somalia. These variables include effort expectancy, performance expectancy, social influence, perceived expense, behavioral intention to use 3G technology, and satisfaction with the service.

- *Effort expectancy:* this construct consisted of four items; all of them were adopted from Zhou, Lu, and Wang (2010).
- Performance expectancy: this construct consisted four items; two of them were adopted from Li and Yeh (2009), while the other two items were adopted from Lu, Liu, Yu, and Wang (2008).
- *Social influence:* this construct consisted of four items; two of them were adapted from Venkatesh et al. (2003) and Zhou et al. (2010), whereas the other two items created by the authors.
- *Perceived expense:* this construct consisted of four items; three of them were adopted from Teng et al. (2009). One more item was added by the authors.
- *Behavioral intention:* this construct consisted of six items; four of them were adopted from Agarwal, Wang, Xu, and Poo (2007). The authors added two more items capturing students' intention to recommend this technology for their friends and family members.
- Satisfaction: this concept, consisting of five items, was modified from Agarwal et al. (2007), Wixom and Todd (2005), and Devaraj, Fan, and Kohli (2002).
- All these constructs were measured using five point likert scale of 1=

strongly disagree, 2=disagree, 3=slightly agree, 4=agree, and 5=strongly agree.

Reliability Test

A reliability test was conducted to assess the coherence and internal consistency of the items by using Cronbach's alpha (see Table 1). A variable is reliable and internally consistent when the alpha is .70 and above (Hair, Black, Babin, & Anderson, 2010). However, Bowling (2009) suggests that alpha of .50 and above is an indication of internal consistency. Based on the literature, all the Cronbach's alpha scores for the variables were greater the .60. The highest alpha obtained by satisfaction (α=.751), followed by effort expectancy (α=.750) intention (α=.741), and performance expectancy (α=.700). The lowest alpha was found to belong to social influence (α=.664).

Table 1: Cronbach's Alpha for the variables

No.	Variables	N	Items	Alpha
1.	Effort expectancy	395	4	.750
2.	Performance expectancy	395	4	.700
3.	Social influence	395	4	.664
4.	Perceived expense	395	4	.683
5.	Intention	395	5	.741
6.	Satisfaction	395	5	.751

FINDINGS

Demographic Profile

The study collected information related to demographic profile of the respondents. The information collected includes gender, age, level of study, and marital status. Table 2 presents profile of the respondents such as gender, level of study, marital status, and age categories. The study collected responses from 395 undergraduate students in four major faculties in SIMAD University, Somalia. As for gender, more than two-thirds of them (70%) were male students while less than one third (30%) were female. In terms of level of study, slightly less than half of the students (46%) were studying in their third year, followed by second year (22%), fourth year (20%) and first year (12%). More than seven in ten (72%) of the respondents were single while less than one third were married (28%). With regard to age categories, slightly less than two-thirds (59%) were below 23 years, followed by those who aged between 24-29 years (34%). Very few (8%) were older than 30 years.

Table 2: Demographics of the respondents

Demographics	Frequency	Percentage
Gender		
Male	277	70.1
Female	118	29.9
Total	395	100.00
Level of study		
First year	46	11.6
Second year	87	22.0
Third year	182	46.1
Fourth year	80	20.3
Total	395	100.00
Marital Status		
Single	286	72.4
Married	109	27.6
Total	395	100.00
Age categories		
18-23	231	58.5
24-29	133	33.7
30-35	31	7.8
Total	395	100.0

Zero-order correlations

Bivariate correlation was conducted to examine the interrelationships among the main constructs in this study. There were six variables to examine 3G adoption and satisfaction among students in Somalia. As shown in Table 3, the mediator variable in this study (intention) was significantly and positively correlated with all four independent variables, namely effort expectancy (r=.417, p=.000), performance expectancy (r=.486, p=.000), social influence (r=.545, p=.000), and perceived expense (r=.328, p=.000). In addition, the dependent variable was also significantly and positively correlated with effort expectancy (r=.381, p=.000), performance expectancy (r=.469, p=.000), social influence (r=.462, p=.000), perceived expense (r=.143, p=.004) and intention, (r=.542, p=.000). Furthermore, there were significant correlations among the independent variables. For instance, effort expectancy was significantly and moderately correlated with performance expectancy (r=.566, p=.000), and social influence (r=.488, p=.000), whereas this variable was significantly and weakly correlated with perceived expense (r=.289, p=.000). Social influence was positively correlated with performance expectancy (r=.608, p=.000), and perceived expense (r=.236, p=.000).

Table 3: Zero-order correlation among the main variables in the study (N= 395)

No.	Variables	1	2	3	4	5	6
1.	Effort expectancy	1					
2.	Performance expectancy	.566*	1				
3.	Social influence	.488*	.609*	1			
4.	Perceived expense	.289*	.301*	.236*	1		
5.	Intention	.417*	.486*	.545*	.328*	1	
6.	Satisfaction	.381*	.469*	.462*	.143**	.542*	1

Note: * = correlation is significant at the 0.001 level, **= correlation is significant at the 0.05 level.

Hypotheses testing

The current study sought to investigate the effects of effort expectancy, performance expectancy, social influence, and perceived expense on students' intention to adopt 3G technology, which in turn, influences satisfaction with the service. Five hypotheses were developed based on the literature. In order to test these hypotheses, a linear multiple regression analysis using stepwise method was conducted to examine the effects of these predictors on both the mediator and criterion variables (see Table 4). The regression assumptions were checked before proceeding to further analysis. The dependent variable in this study (satisfaction) was normally distributed across all independent variables. The linearity, Collinearity, and outliers were also checked. Therefore, no violations were observed.

Table 4: Step-Wise regression analysis predicting students' intention to adopt 3G technology

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.495	.124		12.025	.000
	Social influence	.515	.040	.545	12.880	.000
2	(Constant)	1.073	.147		7.282	.000
	Social influence	.468	.040	.495	11.716	.000
	Perceived expense	.176	.035	.211	4.991	.000
3	(Constant)	.941	.149		6.319	.000
	Social influence	.360	.048	.381	7.465	.000
	Perceived expense	.148	.035	.178	4.187	.000
	Performance expectancy	.181	.047	.200	3.851	.000

		Unstandardized Coefficients		Standardized Coefficients		
4	(Constant)	.865	.152		5.675	.000
	Social influence	.338	.049	**.358**	6.888	.000
	Perceived expense	.138	.036	**.165**	3.872	.000
	Performance expectancy	.143	.050	**.158**	2.850	.005
	Effort Expectancy	.091	.043	**.106**	2.094	.037

Note: R= .608, R2=.370, Adjusted R square= .364, F=57.283, p=.000.

The results of the step-wise regression analysis suggested four significant models, putting the social influence (F=165.894, p=.000) in the first model, social influence and perceived expense in the second model (F=100.449, p=.000), social influence, perceived expense, and performance expectancy in the third model (F=74.273, p=.000), while the last model was also significant when effort expectancy was added (F=57.283, p=.037). All the predictors (R^2=.370) managed to explain 37% of variance in the mediator variable (intention), which in turn explained 29% in satisfaction (R^2=.294).

H1.a posited that effort expectancy has significant positive effect on the students' intention to use 3G technology. The results of regression analysis shown in Table 4 revealed that this construct yielded significant and positive effect on intention to adopt 3G among the students (β=.106, t=2.094, p=.037). Therefore, H1 was fully supported.

H2.a postulated that performance expectancy would have significant positive effect on the students' intention to adopt 3G technology. This hypothesis was supported by the empirical data (β=.158, t=2.850, p=.005). H3.a, predicted significant positive effect of social influence on the mediator variable was also fully supported (β=.358, t=3.888, p=.000). The fourth hypothesis (H4.a) expected a significant positive effect of perceived expense on the students' intention to use 3G technology. The regression results suggested statistically significant effect of this variable on the students' intention (β=.165, t=3.872, p=.000). The results of Step-Wise regression analysis suggested that social influence (β=.358) was the best predictor of the students' intention to use 3G technology. It means that if the students' friends, family member, lecturers, and neighbors recommended the 3G technology, they more likely to adopt and continue using it, while recommending also for their social surroundings. The second best predictor as suggested by the regression results was the perceived expense. In other words, if the students feel that the price of 3G technology is high and unaffordable, they are more likely to discontinue using it and not recommend to their loved ones.

The last hypothesis (H5) was also fully supported as suggested by the empirical data. Table 5 provides the results of simple regression analysis to examine the effect of behavioral intention on students' satisfaction with 3G technology. As shown in the table, there was statistically significant, positive, and moderate effect of the mediator (intention) on the outcome variable (satisfaction), with significant model, F=163.3, p=.000, R=.542, R^2=.294, t=12.78 (p=.000).

Therefore, H5 was supported.

Table 5: Simple regression of the prediction of behavioral intention on satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.118	.153		7.311	.000
	Intention	.622	.049	.542	12.779	.000

In order to test the mediating effect of the predictors on the creation variable, a partial correlation was conducted. There were four predictors in this study, namely effort expectancy, performance expectancy, social influence, and perceived expense. Behavioral intention was the only mediator, whereas the satisfaction was the criterion variable. Table 6 provides the results of the partial correlation.

Table 6: Mediating effect of intention between the predictors and the criterion variable

Variables	Step 1 Satisfaction		Step 2 Intention		Step 3 satisfaction		Step 4 Satisfaction	
Predictors	**Beta**	**p**	**Beta**	**p**	**Beta**	**p**	**Beta**	**p**
Effort expectancy	.381	.000	.417	.000	-	-	.203	.000
Performance expectancy	.469	.000	.486	.000	-	-	.280	.000
Social influence	.462	.000	.545	.000	-	-	.237	.000
Perceived expense	.143	.004	.328	.000	-	-	-.043	.391
Mediator								
Intention	-	-	-	-	.542	.000	-	-

As suggested by Baron and Kenny (1986), a mediating approach can be established by following four steps. The first step can be established when the predictors (effort expectancy, performance, social influence, and perceived expense) had significant correlations with the criterion variable (satisfaction). The second step can be achieved when the predictors had significant correlations with the mediator (intention). In step three, the mediator variable should have significant relationship with the criterion. Step 4, the relationship between the predictors and the criterion variable must be either insignificant, or reduced when the mediator is controlled.

As shown in Table 6, the four steps of testing the mediation were achieved. Effort expectancy was significantly correlated with the mediator (intention, beta=.417, p=.000) and the criterion (satisfaction, beta=.381, p=.000). As well, the mediator was significantly correlated with the criterion variable (beta=.542, p=.000). When the mediator was introduced, the standardized beta of the relationship between effort expectancy and satisfaction was reduced from .381 to .203; however, it is still significant. It means that intention partially mediates this relationship. In addition, intention partially mediates the relationships of performance expectancy and social influence with satisfaction since their betas decreased to .280 and .237 respectively. On the other hand, the relationship between perceived expense and satisfaction was fully mediated by intention since the standardized beta was reduced from .143 to -.043, which is not significant.

DISCUSSION

This study is conducted to examine the influential factors of 3G adoption among students in a private university in Somalia. Specifically, the objectives of the study are to 1) examine the effect of performance expectancy on students' intention to adopt 3G; 2) explore the effect of effort expectancy on students' intension; 3) look at the effect of social influence on students' intention; 4) examine the effect of perceived expense on students' intention; 5) test the effect of intention on students' satisfaction with the service; and 6) test the mediating effect of intention between 3G predictors and satisfaction with the service.

By employing proportionate stratified random sampling technique, this study collected responses regarding the main variables of the study from 395 students in five main faculties in SIMAD University, a private university based in Mogadishu, Somalia. Students provided responses to six main constructs, namely effort expectancy, performance expectance, social influence, perceived expense, behavioral intention to adopt 3G technology, and satisfaction with the service.

The results of the Bivariate correlation suggested that the criterion variable (satisfaction) had statistically significant and positive correlation with the four predictors namely effort expectancy, performance expectance, social influence, and perceived expense. On the other hand, the results of multiple regression analysis revealed that all these four constructs had statistically significant, positive, and direct effects on the user's intention to adopt 3G technology, which in turn, significantly influenced the students' satisfaction with the service, while these predictors indirectly influenced the students' satisfaction with the service through behavioral intention. Figure 2 visualizes the results of the multiple regression analysis.

Regarding the first hypotheses (H1.a & H1.b), which posited that the effort expectancy will positively and significantly influence students' intention to adopt this technology, was fully supported, as well as it partially mediates the relationship between effort expectancy and satisfaction with the service. The

results of this study demonstrated a support for the previous studies, which found that effort expectancy and its derivatives such as perceived ease of use and perceived compatibility to be key determinants of behavioral intention to use 3G technology among Malaysian consumers and students respectively (Ong et al., 2008; Suki, 2012). In another way, if the consumers felt that operating the technology does not require a lot of mental effort; they are more likely to adopt and recommend it for others.

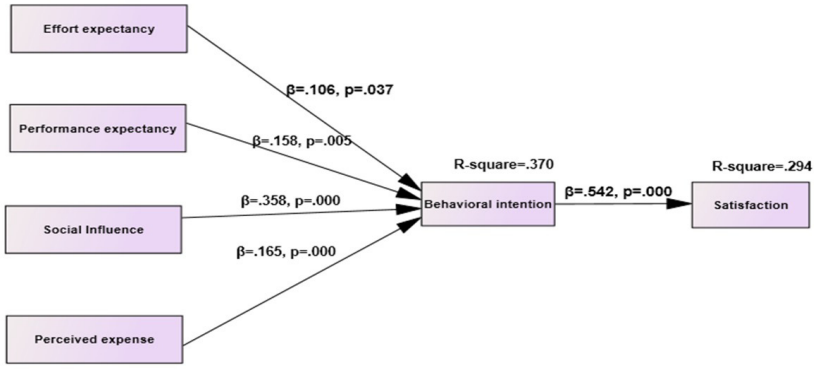


Figure 1: Research Framework

Performance expectancy in this study was found to have significant and positive impact on the students' intention to adopt 3G service. This is in line with the previous studies (Chong et al., 2012; Ong et al., 2008; Suki, 2012) that found relative advantage and perceived usefulness, which are similar with performance expectancy, to be major influential factors of the intention to use 3G technology among Malaysian and Chinese consumers. In addition, its relationship with satisfaction was partially mediated by intention. Therefore, H2.a and H2.b were supported.

Social influence in this study was hypothesized to have significant effect on students' intention to use 3G technology. The results of the multiple regression analysis supported this hypothesis. Social influence had also indirect effect on satisfaction through intention. It means that the students' intention to use this technology is influenced by their friends, family member, lecturers, and other social surroundings. The results of this study are supported by several previous studies, that found this construct to be a major predictor of consumers' intention to use the technology (Du et al., 2012; Mardikyan et al., 2012; Ong et al., 2008; Wu et al., 2007). The construct was significant predictor in the context of Malaysia, China, Turkey, and Taiwan. Thus, H3.a and H3.b were fully supported.

Perceived expense in this study was also found to be a significant predictor of students' intention to adopt the 3G technology (H4.a). In addition, the results of partial correlation revealed that intention fully mediates the relationship between satisfaction and perceived expense. The students considered the price

of the service whether they can afford or it is beyond their budget. If it is cheap and affordable, they are more likely to adopt and recommend it to their social surroundings. This notion is supported by previous studies, which suggested that the price or the cost of the service positively influenced the use of the service among the different consumers in Malaysia, Taiwan, and Turkey respectively (Mardikyan et al., 2012; Ong et al., 2008; Teng et al., 2009) However, this study is in contrary to Du et al. (2012), who found this construct to have negative influence on the intention to adopt 3G technology among Chinese consumers. Consequently, H4.a and H4.b were fully supported.

The last hypothesis (H5), which posited that behavioral intention would have significant impact on the students' satisfaction with the service, was fully supported. Intention was significantly correlated with satisfaction.

CONCLUSION

This study examined the influencing factors of satisfaction and the behavioral intention to use the newly launched 3G technology among Somali students, based on the Unified Theory Of Acceptance and Use of Technology (UTAUT). The study has theoretical and practical implications.

First, this study contributed to the ongoing and evolving literature on the adoption of 3G technology among culturally-diverse consumers. The significance of this study lies in the application and extention of UTAUT theory, since there are little empirical studies that address the use and adoption of this technology.

Although the theory was proved to be cross-culturally fit and had predictive power of technology acceptance and use (Oshlyansky et al., 2007; Venkatesh & Zhang, 2010), there were few studies as compared to the TAM model, which focused on the prediction of effort expectancy, performance expectancy, and social influence. As suggested by Venkatesh et al. (2003) to incorporate with the other predictive variables, the authors extended the theory by adding two dimensions, capturing important perception and satisfaction with the technology under investigation, namely perceived expense and satisfaction. Although the literature reveals contradicting results regarding the prediction of perceived expense, this study supported the majority of the studies in this context.

Second, the study provides useful insights to the telecommunication sector in the country in general, and the *Hormuud* Telecom, a 3G service provider, in particular. This study showed that there are several factors that the management should consider, namely easiness, usefulness, peer influence, and the affordability of the service to different income earners including the students. The students in this sample demonstrated that their intention of adopting the service and recommending to others is dependent on four factors. Therefore, it is necessary for the managers to frequently evaluate the underlying factors for adopting their service in order to maintain the market share. Similarly, these factors had indirect effects on the students' satisfaction with the service. It means that the students' satisfaction is determined by their beliefs about the technology: performance

expectancy, effort expectancy, and perceived expense, as well their perception about the social surroundings: social influence.

The study is encountered by several limitations including sampling procedure, and some theoretical perspectives. First, this study is only generalizable to the SIMAD university population. Therefore, it is recommended for future studies to expand the sampling frame to other universities in the country in order to obtain a clearer picture and comprehensive understanding about the underlying factors of 3G technology adoption and satisfaction. Second, this study did not address the moderating effects of gender, age, experience, and voluntariness, which are found in the original model. As such, it is suggested to include these moderating effects in future studies. As found in the literature, there are other factors that influence the adoption of this technology, therefore it is suggested to include these factors in future models, which examine Somali consumers' adoption of 3G technology, in order to expand our understanding of this phenomenon.

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