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Adoption of 3G Service in Bangladesh: A Conceptual Framework

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ABSTRACT

Recent technological development has made the mobile service more affordable. The third generation mobile technology service 3G has brought these services faster. University students are a large user of these mobile services and they are in the perfect age to adopt any better technological innovation. To move on with the advanced world, internet is an inseparable issue and advanced technological innovation like 3G has made the internet use more comfortable. Adoption of 3G can bring greater benefit of internet use. With this view, thus this study is focused on evaluating the considerable factors in adoption of 3G. This study has gone through several literatures. [1], [2] These studies mainly addressed adoption of 3G in relation to perceived ease of use, perceived usefulness etc. However still there are some factors which are not considered in the literature like; perceived cost, perceived enjoyment and perceived service quality. To address this deficiency, the current study has proposed a conceptual framework (See figure*). To understand the proposed framework, the Technology Acceptance Model (TAM) is considered as a grounded theory. In the proposed framework perceived cost, perceived enjoyment and perceived service quality on 3G adoption is considered as new factors in the context of university students of Bangladesh. It will apply empirically considering both private and public university students of Bangladesh. It is expected that the current study will contribute theoretically proving the relationship of perceived cost, perceived enjoyment and perceived service quality with other variables and practically it will be helpful for service operators.

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INTRODUCTION

The third generation mobile technology service 3G has come with a high-speed internet facility. Voice and data both services are developed with the help of this 3G service. Improved network with various multimedia services is making 3G the most attractive technology. In Bangladesh, recent technological development has made the availability of 3G service. Audio, video, data service all become attractive if high speed is there [1], [2]. 3G is preferred as it provides a high speed internet with wide variety of services. Several researches identified external variables like convenience, self efficacy, quality of service, variety of services; perceived value and price are significant factors in the adoption of a technology [3]-[8].

Bangladesh has improved a lot in the internet sector. After the innovation of 3G, using facility of internet has also increased. Here university students, the bone of the nation, are also using internet upto the highest mark. They are using the internet for their study, learning, knowledge earning, social networking and for enjoyment as well. 3G is a service that can have impact on the wide use of internet. Thus it is very important to identify which are the key variables for the adoption of 3G process among university graduates.

Literature Review:

The widely-used Technology Acceptance Model (TAM) is derived from Theory of Reasoned Action (TRA). It specifically explains the computer usage behavior [9]. TAM is widely accepted as a model for the adoption of technological invention. Due to uncertain theoretical and psychometric status it ignore subjective norm and focus on attitude [5], [9].

In this model two beliefs are addressed, perceived usefulness and perceived ease of use of technology as the main determinants of the attitudes toward a new technology. These two beliefs affect the intention toward using the IT that consequently affects its adoption [9].

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External Variables:

External variables affect the adoption of a technology according to the TAM model. Previous studies have proposed a number of external variables that have an effect on technology adoption [10]. After reviewing those studies on 3G adoption [11]-[14], a group of external variables affecting 3G adoption are identified. Based on their relevance to 3G technology, the following variables are selected – convenience, service quality, IT self efficacy and variety of service.

Perceived Service Quality:

Perceived service quality is defined as the customer's assessment of the overall excellence or superiority of the service [15]. It results from the consumer judgment and comparisons they make between their expectations and their perception of the actual service performance [16]. In the context of 3G, reliability of network, availability and accessibility are included in service quality. Hardware and software functionalities, such as dimension of device, battery life, display, speed and functionalities provided can also be considered by the user [13].

Perceived Cost:

Perceived cost is consumer evaluation of the benefit of the service against the cost of using the service [17]. These perceived cost factors sometimes have impact on using 3G services. If users perceive that the cost is higher than the benefits from a service, users will be step back to subscribe the service. Cost plays an important role to determine the adoption of technology among potential users. In the Model of Adoption of Technology in Households (MATH) one of the concepts in control belief is the perceived cost in adopting a technology [18].

Perceived Enjoyment:

The extent to which using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated is actually perceived enjoyment. Perceived enjoyment influence the usage intention directly as well [6]. Intrinsic motivation analyzes an individual's liking, enjoyment, joy and pleasure come along with technology use [8].

Scope of the study:

In recent years Bangladesh has a dramatic growth in Internet usage. As government took various initiatives under the Access to Information (a2i) project (open Hotspot zone, government offices with internet facility, Reduce bandwidth price etc) have impacted the growth of users [19]. As of December, 2014 internet subscribers have reached 43.64 million users [20]. 3G is relatively a new service in Bangladesh. Many people may not be totally aware of what to expect from it. This technology is providing a faster internet service. It opens varied types of value added service (VAS) one can subscribe to. Internets TV, internet radio, video call are most common of all. University students are a large user of internet. They need faster internet for e-learning, e-library, knowledge gathering, and social networking and for enjoyment as well. This study thus will be conducted on this large internet user group. Both private and public university students will be the scope of this study.

Significance of the Study:

Bangladesh is growing very fast in increasing its internet user. For better service, 3G has launched by the five big mobile operators in Bangladesh. University students are using internet for their study and other purpose quite frequently. Identifying the influential factors can let the operators understand where to develop to make this 3G service more available. If students also understand the importance of 3G service like, perceived ease of use and perceived usefulness then they can be benefited by using the service as well. This study's finding can help both the service operators as well the user like university students.

Research Questions:

On the basis of the literature review following questions are found to be unsolved.

1. What perception do university students have on 3G service in Bangladesh?
2. What are the major factors those affect the adoption of 3G service?
3. How influential factors are applied for increasing the adoption of 3G?

Objectives of the Study:

The main objectives of the study are-

1. To find out several factors those have impact on the adoption of 3G in Bangladesh.
2. To find out the perception of university students towards the 3G service of Bangladesh.
3. To find the influential factors those have the major contribution to the adoption of 3G service by the university students.

4. To find out the way of successful implementation of the influential factors for the adoption of 3G in Bangladesh.

Theory to be followed:

Much literature have gone through the customer attitude to adopt a particular technology those has been derived from the Technology Acceptance Model (TAM).

TAM indicates behavioural intention as a result of conscious decision making processes [8]. The model specifies three belief factors that are salient in the context of information technology usage and acceptance: perceived usefulness (PU), perceived ease of use (PEOU), and attitude towards usage (ATU) [5], [21]. Perceived usefulness (PU) is defined as "the degree to which a person believes that using a particular system would enhance his or her performance" [5]. Perceived ease of use (PEOU) refers to "the degree to which a person believes that using a particular system would be free of effort" [5]. Perceived usefulness and perceived ease of use can be considered as cognitive factors. Attitude towards usage (ATU) refers to "the degree to which an individual evaluates and associates the target system with his or her job" [22]. Attitude towards usage has been identified as a factor that guides future behaviour or the cause of intention that ultimately leads to a particular behaviour. In TAM, attitude towards usage is referred to as the evaluative effect of positive or negative feeling of individuals in performing a particular behaviour [21].

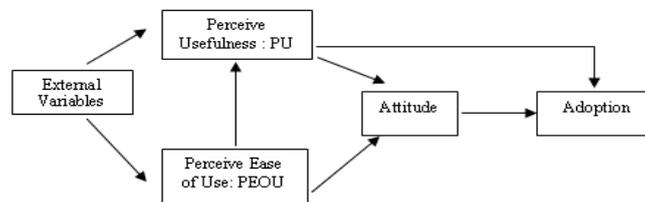


Figure 1 Technology Acceptance Model
(Based on Davis, 1989)

Research Model:

Following the model of TAM, the dependent variable for this research is consumers' adoption of 3G service which comes from the attitude towards using 3G services.

Perceived usefulness and perceived ease of use are two variables derived from the TAM. But as human behavior are not fully pre-determined and can be changed over situation, factors which have strong impact on the adoption of students behavior is needed it identify. As university students are in such an age of learning new things, 3G adoption can be very awaited by them. Cost on using an innovation will affect the rate of adoption if a student perceives that using 3G mobile services requires higher cost commitment than he/she affords. Again service quality plays very significant role for students' adoption of 3G [23]. So adding perceived cost, perceived enjoyment and perceived service quality as added variables the proposed conceptual model is as follows:

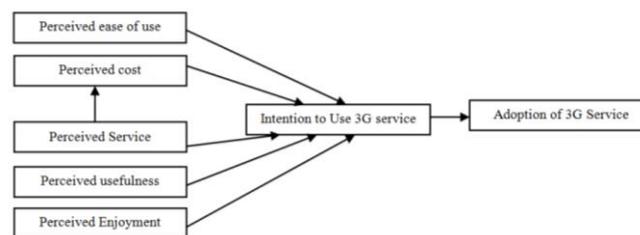


Fig. 2: Proposed Conceptual Framework.

Research Methodology:

Different Universities both public and private which have undergraduate and graduate students may be considered as the study area. The study will be based on both primary and secondary data. A mixed method (both qualitative and quantitative) will be followed.

Target Sample and sampling method:

The target population for the study will be different university students. Sample will be selected randomly from different universities. However, random and convenience sampling technique may be applied as a means of data collection.

Questionnaire Development:

Questionnaire will be developed for applying both qualitative and quantitative research techniques. For qualitative method, an open ended questionnaire will be used. Here, around 50 depth interview will be conducted on different university students. This interview will be taken to find out whether different measures are similar to the literature. As the research will be conducted in different universities, the researchers mainly will focus to find out whether variables are matched with the context. In quantitative method, a structured question will be used. Each of the questionnaires will be developed with the help of existing literature for testing proposed conceptual research framework. A five point Likert Scale will be used in this purpose.

Data Collection:

The study will mainly follow mixed method approach. Data will be collected in two phases i.e. quantitative and qualitative. In qualitative phase around 50 depth interview will be conducted among university students. In quantitative phase, 250-300 data will be collected by the use of structured questionnaire. Number of sample for data collection may be varied as per the need of the study.

Data Analysis:

The proposed model will be tested using SEM analysis with the help of available statistical tools e.g., SPSS, AMOS or PLS. Moreover, the depth of analysis depends on how details the subject needs to be analyzed considering the situation surrounding the research project. Thus, it can be summarized at this stage that data analysis techniques will be used as per the need of the study.

Practical Implication:

In Bangladesh the internet facility has been changed dramatically. In competition with the current world, internet and learning through internet has been an emerging issue. Students with high facility 3G service can ensure a better education. The 3G service provider also need to know the influential factors of 3G adoption. Through the survey factors affection the adoption of 3G can be find out which can be helpful to maintain better 3G service by the service provider. Government, 3G service providers and sectors involved with internet connection can use the finding to bring the best of 3G. As 3G is a vital fact for internet user even for students, this sector can be developed more efficiently by knowing the influential factors of the adoption process. Academicians and researchers can also be benefited with the help of the findings.

Theoretical Application:

This particular research will be conducted to find factors affecting the adoption of 3G service. Technology Acceptance Model [5] will be used as a base of the study. The proposed conceptual framework (Fig: 2) is an extension of this model. In the proposed framework three added factors like, perceived cost, perceived enjoyment and perceived service quality, will be examined whether it have any impact on the adoption process of 3G service among university students. New technology adoption is a common process but all the time this process is not successful for University students. Because the factors we consider in technology adoption may not be the success factors in all the people. From literature, it is clear that people behave positively is there is perceived usefulness and perceived ease of use. Again, people are satisfied if the enjoyment and service quality is there. But in countries like Bangladesh, cost can be a vital factor for students' adoption of 3G service. So considering those as an influential factor for behavioral intention and adoption, we will conduct the research and will observe whether it has any impact or not. If there is found positive relationship along with other variables, it will be most important theoretical contribution of the study. In addition, application of TAM will be strengthen.

Conclusion:

This study is focused on evaluating the considerable factors in adoption of 3G. As 3G is a vital innovation for the internet user, identifying its influential factors is very important for both user and service providers. New technology is greatly adopted by the younger who are basically students. So what makes them to adopt this new 3G service is the main focus of this study. A conceptual framework is proposed here to identify most influential factors for adopting 3G service. Here perceived cost, perceived enjoyment and perceived service quality are considered as new factors for the adoption of 3G in the context of university students of Bangladesh. This study would recommend that future researchers need to practically implementing the theory and find out the impact of these variables on 3G adoption. As well as, future study can be done by using more variables to find out more factors for the adoption of 3G services.

REFERENCES

- [1] Adler, T.R., 2004. Member Trust in Teams: A Synthesized Analysis of Contract Negotiation in Outsourcing IT Work. *Journal of Computer Information Systems*, 44(2): 6-16.
- [2] Lu, J., C.S. Yu and C. Liu, 2005. Facilitating Conditions, Wireless Trust and Adoption Intention. *Journal of Computer Information Systems*, 46(1): 17-24.

- [3] Auger, P. and J.M. Gallagher, 1997. Factors Affecting the Adoption of an Internet-Based Sales Presence for Small Business. *The Information Society*, 13: 55-74.
- [4] Bradanch, J. and R. Eccles, 1989. Price, Authority, and Trust: From Ideal Types to Plural forms. *Annual Review of Sociology*, 15: 97-118.
- [5] Davis, F.D., 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3): 319-340. Retrieved February from <http://www.jstor.org/pss/249008>
- [6] Davis, F.D., R.P. Bagozzi and P.R. Warshaw, 1992. Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14): 1111-1132.
- [7] Ajzen, I., M. Fishbein, 1980. *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- [8] Venkatesh, V., M.G. Morris, F.D. Davis, G.B. Davis, 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3): 425-478. Retrieved February, from <http://www.jstor.org/pss/30036540>
- [9] Davis, F.D., R.P. Bagozzi, P.R. Warshaw, 1989. User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8): 982-1003. Retrieved from <http://www.jstor.org/pss/2632151>
- [10] Legris, P., J. Ingham and P. Collette, 2003. Why do people use information technology? A critical review of the technology acceptance model. *Information and Management*, 40(3): 191-204.
- [11] Han, S., 2002. A framework for understanding adoption and diffusion processes for mobile commerce products and services and its potential implications for planning industry foresight. *Proceedings of IRIS25*.
- [12] Pedersen, P.E. and R. Ling, 2002. Mobile end-user service adoption studies: A selective review. *Working Paper, Agder University College and Telenor R&D, Grimstad, Oslo, Norway*.
- [13] Pagani, M., 2004. Determinants of Adoption of Third Generation Mobile Multimedia Services. *Journal of Interactive Marketing*, 18(3): 46-59.
- [14] Parasuraman, A., L.L. Berry and V.A. Zeithaml, 1988. SERVQUAL: A multiple-item scale for measuring customer perceptions of service quality. *Journal of Retailing*, 64(1): 12-40.
- [15] Zeithaml, V.A., 1988. Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, 52(3): 2-22.
- [16] Lewis, B.R., 1989. Quality in the service sector: a review. *International Journal of Bank Marketing*, 7(5): 4-12.
- [17] Cheong, J.H. and M.C. Park, 2005. Mobile internet acceptance in Korea. *Internet Research* 15(2): 125-140.
- [18] Venkatesh, V. and S. Brown, 2001. A longitudinal investigation of personal computers in homes: adoption determinants and emerging challenges. *MIS Quarterly*, 25: 71-102.
- [19] Access to Information (a2i) Programme, 2015. Digital Bangladesh. Retrieved February 5, 2015 from the Prime Minister's Office, Dhaka, Bangladesh website: <http://www.a2i.pmo.gov.bd/digital-bangladesh>
- [20] Bangladesh Telecommunication Regulatory Commission, 2015. *Internet Subscribers in Bangladesh December, 2014*. Retrieved February 5, 2015, from BTRC website: <http://www.btrc.gov.bd/content/internet-subscribers-bangladesh-december-2014>
- [21] Ajzen, I., M. Fishbein, 2000. Attitudes and the attitude-behavior relation: Reasoned and automatic processes. In W. Stroebe & M. Hewstone (Eds.). *European review of social psychology*, 1-33. John Wiley & Sons.
- [22] Davis, F.D., 1993. User acceptance of information technology: System characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38(3): 475-487. Retrieved February, from <http://dx.doi.org/10.1006/imms.1993.1022>
- [23] Naresh, K.A., W. Zhen, W. Yunjie, C.C.P. Danny, 2007. Factors Affecting 3G Adoption: An Empirical Study. *Pacific Asia Conference on Information Systems*, 255-270.