

The Influence of Consumer Decision Making On Telecommunication Technology Adoption in Malaysia

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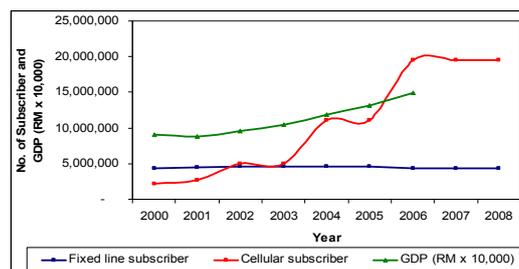
Abstract. The evolution of telecommunication technology in Malaysia exhibits the phenomena of industrialization of the nation. The trend shows seasonal positive growth suggests the adoption of different type of telecommunication technology advancement. The introduction of broadband will further enhance the industrialization especially the economical development through the role played by the society at large. The aim of this research is to examine the behavioral intention of the consumer for decision-making to promote the diffusion of broadband. Primary data gathered for respondents and statistically analyzed. The behavioral intention is influenced by utilitarian outcome, hedonic outcome, social influence, self-efficacy, facilitating conditions and demography. It is also found that readiness, personal computer owner at home, affordability, social network, retrieving material influence the decision-making to adopt the technology.

Keywords: diffusion of technology, broadband, social network, hedonic outcome, utilitarian outcome.

1. INTRODUCTION

The remarkable achievement of the economic transformation is accompanied by a significant advancement that exhibits the development of industrialization and telecommunication infrastructure went hand-in-hand.

The evolution of telecommunication creates two distinct features of telecommunications namely the fixed line and the cellular. The period of uneven growth domestic product (GDP) exhibit the growth of fixed line subscription, follow the deceleration in fixed line subscription during the regional economic crisis in 1997 and contribute to the mergers of telecommunications provider especially to the weaker entrants. The bigger player chooses to rollout the mobile communication rather than the fixed line infrastructure. The rate of penetration of cellular increase since 1999 exhibit a high rate of cellular adoption until reaches the critical mass as definite as the diffusion of technology [5]. The penetration rate of the cellular increase with the positive growth of the GDP hinted that there might be some relationship between the economic situations of the nation as shown in Fig. 1.



Source: Various sources

Fig. 1 Number of subscriber against GDP

The trend of seasonal positive growth suggests the adoption of different type of telecommunication technology advancement for cellular. Each cycle may represent the S-curve of a telecommunication technology that been introduced to the market and been adopted by the consumer. As a result, for the third year in a row, Malaysia has scored the highest usage and deployment of information and communication technology (ICT) within its grouping of resource driven economies in the connectivity scorecard. Broadband has become very essential in improving individual's lifestyle and also business activities and efficiency. The introduction of broadband bridge user with the outside world promise better delivery of information ubiquitously.

2. ADOPTION OF BROADBAND

Broadband connection is very important to those that have the need and understand its benefits. Broadband Internet offers potential to increase the international competitiveness and economic growth of a country by accelerating the growth and deployment of emerging electronic services including e-commerce and e-government [4]. Broadband is considered as a key to enhancing competitiveness of an economy and sustaining economic growth. Adopting the broadband technology is beliefs to promote some contribution to the economic and social development through the enhancement of productivity and efficiency by the key enabling networked society.

Thus, there are influencing factors that can affect broadband adoption to the critical mass society. The subscription of fixed and mobile broadband shows 6.1 and 5.0 per 100 inhabitants respectively in 2008. Issue of demand constraints generates the questions why consumers are slow to adopt broadband and how can broadband demand be accelerated. These issues should be address to understand the factors that influence the adoption of telecommunication.

2.1. Factors Influenced Adoption

This research via survey was conducted to understand broadband adopters, the connectivity being used and the main purpose of using broadband. On the users' point of view, affordability is very subjective as it tied with income level of the people subscribing broadband. In terms of readiness, it seems that all parties especially the government has been working hard to find ways to increase broadband penetration and improve the existing infrastructure with the aims to achieve 50 percent broadband household penetration in the country by the end of 2010.

From the background, the diffusion of the telecommunication technology is very much depends on the factors influencing the consumer decision making upon purchasing the type of the technology. This research aims to explore the consumer decision making in adopting the technology available in market, why Malaysian people adopted broadband and what are the influencing factors affecting the adoption of broadband. The analysis of current literature suggests that the existing studies on broadband related issues mostly concentrated on macro factors [2], the investigation of the demographics of consumers [1] and the examination of the individual perceptions [4]. There are some limitations with regards to the research to generalize these findings that are applicable to the whole of Malaysia. Customers that rely solely on cellular telephones will be using 3G wireless broadband and customers with fixed-line telephone will be using wired broadband, may have different experiences using broadband.

2.2. Drivers to Broadband

Key drivers to broadband adoption as the behavioral intention (BI) is influenced by several independent variables that include the attitudinal that consists of two explanatory variable namely Utilitarian Outcomes (UO) and Hedonic Outcomes (HO), normative that consists of Social Influences (SI), Control Factors consists of self-efficacy (SE) and Facilitating Conditions Resources (FCR) and Demography (age).

Reference [6] proposed and validated the UO factor that can be used to examine the adoption and usage of technology in a household setting. UO are the extent of using a personal computer (PC) that enhances the effectiveness of routine, household activities, such as budgeting, homework and work. It has been suggested that broadband can offer a more flexible work and lifestyle [3], like to work at home instead of traveling to the office, broadband can assist children with their homework, and many more household activities that can

be performed conveniently using the faster access of Internet offered via broadband. HO is one of the factors that influence PC adoption in the home defined as pleasure derived from PC uses for example games, fun and entertainment. Empirical findings by [6] established that when adopting a technology, the role of entertainment (PC games and video games) is important as a factor for consideration on the consumer decision-making process. SI factors from friends, a colleagues, peers and family member that takes the form of a conversation, messages and assists in forming perceptions of broadband adoption is considered to be a primary influence [6]. Social networks with positive messages, they are more likely to have a strong BI to adopt broadband.

Cost and perceived resources have been highlighted as important factors for adoption of broadband. Therefore, it is expected that if the perceived cost of obtaining broadband is high and perceived resources are low, and then adoption will be slow. The use of broadband also requires a PC and the Internet, the ease or difficulty of use and requisite knowledge It is expected that household users with basic PC and Internet skills or, in other words, with higher SE are more likely to adopt broadband.

3. ANALYSIS

This study examined the factors affecting the adoption as a result of the decision made during subscription, usage and diffusion of broadband Internet in Malaysia. Out of 1500, data from 606 respondents managed to be gathered where the respondents were from Melaka , Johor, Kedah, Kelantan, Negeri Sembilan, Selangor, Kuala Lumpur and Pahang.

Demographically, 54.5% is male and 45.5% is female. The majority of them (55.7%) are between the age of 18 to 34 years old and 28.8% is between the age of 35 and 54 years old. Respondents with secondary school education level are 54.8% and 42.9% respondents with degree and diploma. Most of the respondents are single (56.4%). Majority of the respondents have the income level at RM5,000.00 and below. As for employment status, 56.1% are working people and 28.7% are students. Out of 56.1% working people, 91.8% uses Internet, while number of students uses Internet is 90.8%. Majority (45.5%) of the married respondents have family members between 3 to 5 years and 25.8% of them with 1 child.

3.1. Accessibility

From the 606 respondents, data shows that 540 (89%) use Internet. From these numbers, 476 (88.1%) respondents use broadband while 64 (11.9%) are still using dial up. There are 490 (80.9%) respondents have Internet access at home and 346 (57.1%) respondents having Internet access at office. Respondents that own PC at home are 506 (84%). The mode of connectivity at home varies where respondents that subscribed fixed-line telephone are 478 (79%) of the respondent. Only 128 (21%) respondents does not subscribe to fixed-line telephone. From this number, 65% get connected at home in which 87% of them connected via broadband with duration of usage below 5 hours a day. From the result it is confirmed that the HO factor influence the decision-making to adopt broadband. Respondent perceived that if broadband is offered within affordable range, there are only 5% of the respondents that have no interest to use broadband. In terms of opinion on current packages, 58% of the respondents agree that current packages are affordable; however, 38% agrees that current packages are between expensive and too expensive.

The findings show that at present cost or cheaper will help to enhance the adoption of broadband to achieve the national target. Reducing the cost will further enhance the adoption rate. The respondents agrees to the statement that subscribing broadband is compatible with most aspects of their everyday life is 522 (86%), while respondents that agrees to the statement that broadband is useful to them and other members in the family is 528 (87%). Respondents that agree to the statement that their annual household income level is enough to subscribe broadband are 500 (82.5%).

3.2. Broadband Usage

Majority (27.8%) of the respondents agree that the purpose of using broadband is to help them to communicate better via email, chat and web cam. Second highest (26.3%) is for the purpose of finding educational materials and accessing library resources at home. Thirdly (14.8%) is to get latest news and next is to help in performing personal and household activities i.e. Internet banking, e-commerce etc. On the enjoyment of using broadband, 42.7% is saying that they like to listen and download music, 40.0% like to

watch and download movies, 13.3% like to play on-line games and 4.0% like to play online gambling/casino. Community plays important role in influencing the decision to subscribe broadband, friends comes second and third is family. In terms of media, TV scored the highest percentage, followed by newspaper and radio respectively. The result of the respondents using Internet and the distant between house and office does not show any consistent result.

3.3. Results from Regression Analysis on Broadband Adoption

The result of regression analysis reveals that the demographic variables (age, PC at home, and education) and independent variable (readiness, awareness and necessities) has significant relationships with broadband adoption, $R = 0.675$. The adjusted R^2 of this model is 0.444, which indicates that 44.4% of its variability with age, pc at home, education, readiness, awareness and necessities. Readiness and PC at home are significant independent variables that influence broadband adoption. The coefficient for PC at home is 0.504 means that for every unit increase in PC at home; a 50.4% increase in broadband adoption is predicted, holding the other variables constant. PC at home was the most important determinant of broadband adoption with the highest standardized coefficient value, 0.504 and the highest t-value, 13.090. Another variable, age was in the different magnitude with the rest of variables. The standardized coefficient value is negative, -0.002 and the t-value, -0.221. This means that, an increase in age will affect a decrease in broadband adoption.

3.4. Broadband Enhancement

Respondents were asked to state their priority on six (6) characteristics that to their opinion can ensure broadband to be effective in Malaysia. The result as in Table 1 shows that training, price and quality listed as the priority to enhance the broadband usage.

Table 1: Enhancement Priority

Characteristic	Priority
Training	1
Review of Price	1
Quality of Broadband	1
After Sales Service	2
Investment by Government	6
Review of Equipment Price	6

From the result, it can be concluded that the 6 characteristics prioritized by the respondent is closely related to the factors that the respondent considered for decision-making. Training that enhanced the efficacy, price that relate to the affordability to subscribe and quality that relate to efficiency to retrieve material, watch movies and social networking.

4. CONCLUSION

Readiness, PC ownership, affordability, social network, retrieving material is factor influence the decision making to adopt broadband in Malaysia. From the analysis on purpose of using broadband, it is found that there exists the need (BI) for the purpose of helping them to communicate better via email, chat and web cam, finding educational materials and accessing library resources at home, to get latest news and to help in performing personal and household activities. There is also the need of broadband connectivity for enjoyment of listening and download music, watching and download movies and playing games on-line. The relevancy of those factors influence to the life style of people will influence the adoption of broadband in Malaysia.

5. ACKNOWLEDGMENT

This research is financially supported by Universiti Teknikal Malaysia Melaka, Malaysia

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