DETERMINANTS OF 3G ADOPTION IN MALAYSIA: A STRUCTURAL ANALYSIS

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ABSTRACT

The main aim of this paper is to examine the factors that affect consumers' decisions to adopt 3G. The factors that are studied in this research include perceived ease of use (PEOU), perceived usefulness (PU), perceived cost (PC), social influence (SI), self efficacy (SE), privacy and security (PS), and fun or enjoyment (FE). The collection of data comprises of 371 mobile phone users in Malaysia. Structural equation modelling was applied to test the hypothesis developed in this research study. The findings from this study indicated that PU, SE and PS have a significant impact on consumers' decision to adopt Third Generation (3G). There are several implications from this study. Firstly, this study focuses on 3G adoption in a fast growing, developing country. Secondly, our study has also extended traditional TAM models by incorporating additional variables related to culture. As many developing countries are starting to embrace 3G technology, our study allows the government as well as service providers of these countries to formulate appropriate business strategies based on our study.

Keywords: 3G, Technology adoption, Structural Equation Modelling, Technology Acceptance Model, Malaysia

INTRODUCTION

With the advancement of Internet and wireless technologies, consumers today are able to access to information anywhere, anytime. The need for ubiquitous Internet connections has seen a steady rise in the demand of mobile devices such as Blackberry, I-Phone as well as I-Pad. These new technologies continue to capture the interests of consumers. This of course, is also supported by the improvements in wireless Internet connections such as 3G. 3G is the third generation mobile telephone communications systems technologies that extend 2G through an improved communication infrastructure. Curwen [15] defined 3G as a technology that allows the integration between terrestrial and satellite components and transmits data on a mobile device with a speed of more than 384kbps.

With 3G, it has answered and met the consumer demand for a high speed communication that supports voice, video and the transferring of data. Although 3G has many benefits and many service providers have invested extensively in the infrastructures for 3G services in Malaysia, the growth of 3G in Malaysia in general has been slower than expectation. The main telecommunication companies such as Maxis and Digi are concerned that their heavy investments in 3G are not paying off due to the slow adoptions by Malaysian consumers [10].

The adoption of 3G is not simply just a matter of whether customers choose to use or not to use the technology or subscribe to the service, but it is a mixture of reasons that led to the adoption and subscription of this particular service. Being a fast growing developing country, 3G is still considered to have a great potential in Malaysia [10]. This is especially true given that 3G is still at a relatively early stage of adoption. Looking at developing countries, most might assume that one of the adoption barriers is due to the lack of infrastructure. However, for many developing countries such as Malaysia, China and Indonesia, the infrastructure might not necessary be a problem as telecommunication firms and governments have invested to ensure that the infrastructures are able to support 3G services. Instead, there is a possibility that consumers in developing Asian countries have certain cultural characteristics which will influence their decisions to adopt a new technology as well as 3G. By addressing this issue, this study will provide a good foundation for other developing countries to formulate their strategies.

Past technology adoption studies have built their research on theories such as Technology Acceptance Model (TAM), Diffusion of Innovation (DOI) and Theory of Planned Behaviour (TPB). However, these models have their limitations and might not be able to explain sufficiently the decisions for users to adopt 3G. The purpose of this study is to address the gap in existing literatures by extending the traditional adoption models and adding variables related to cultural aspects of Malaysian users in their intention to adopt 3G. This study will also apply structural equation modelling to analyze the data. The layout of this research paper is structured as follows: Firstly, we provide a review of the literature on 3G as well as 3G adoption factors. The hypothesis development as well as research model will then be presented follow by methodology and data analysis. Lastly, discussions, conclusions and implications will be presented.

LITERATURE REVIEW

3G

3G is the third generation mobile telephone communication systems technology [10]. In this study, 3G is defined according to Chong et al. [11] whereby it is "the new generation of telephone