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**Potong yang tidak berkenaan*

CONSUMER PERCEPTION AND ACCEPTANCE TOWARDS
WIMAX (WORLDWIDE INTEROPERABILITY FOR MICROWAVE ACCESS)
WIRELESS CONNECTION IN MELAKA

TEO SOO WAH

Laporan ini dikemukakan sebagai memenuhi sebahagian daripada syarat
penganugerahan Ijazah Sarjana Muda Pengurusan Teknologi (Inovasi Teknologi)

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“Saya akui laporan ini adalah hasil kerja saya sendiri kecuali ringkasan dan petikan yang tiap-tiap satunya saya telah jelaskan sumbernya”

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DEDICATION

I would like to dedicate the appreciation to my families, lecturers and friends.

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ABSTRAK

Keperluan kepada sambungan Internet tanpa wayar semakin meningkat di Malaysia. Pada masa kini, teknologi yang baru telah dicipta secara agresif dalam pasaran. Oleh itu, sambungan Internet tanpa wayar kepada generasi keempat telah dicipta untuk meningkatkan gaya hidup dan kemudahan pengguna. WiMAX (Worldwide Interoperability for Microwave Access) adalah sambungan Internet tanpa wayar generasi keempat yang terlibat dalam kategori MAN (Metropolitan Area Network). Walaupun WiMAX sambungan Internet tanpa wayar telah wujud di Malaysia tetapi tingkah laku membeli masih dianggap tidak stabil. Tujuan kajian ini adalah untuk mengkaji persepsi and penerimaan pengguna terhadap WiMAX sambungan Internet tanpa wayar di Melaka. Kajian ini akan memberi tumpuan kepada tiga kategori iaitu generasi Baby Boomers, generasi X dan generasi Y bagi mengenal pasti tahap penerimaan mereka terhadap penggunaan WiMAX. Ini adalah satu penyelidikan deskriptif dan menggunakan tinjauan mengumpul data primer. Dalam kajian ini, kaedah kuantitatif dijalankan untuk mengumpul data yang berkaitan dari pengguna Internet. Selain itu, penyelidik akan mengedarkan 150 soal selidik kepada responden yang tinggal di Melaka. Data yang dikumpul telah dianalisa dengan menggunakan sistem SPSS 20.0. Hasil kajian menunjukkan persepsi dan penerimaan pengguna yang mempunyai hubungan positif terhadap WiMAX. Hasil kajian ini membuktikan bahawa Model Penerimaan Teknologi (TAM) dan persepsi kualiti adalah faktor yang boleh mempengaruhi pengguna Internet. Kesimpulannya, WiMAX sambungan Internet tanpa wayar boleh mengembangkan secara agresif di Melaka kerana pengguna Internet mempunyai persepsi yang baik dan mereka dapat menerima teknologi yang baru.

Kata Kunci: persepsi pengguna, persepsi penerimaan, teknologi, Model Penerimaan Teknologi (TAM), WiMAX sambungan Internet tanpa wayar

ABSTRACT

The requirements for the wireless connection are gradually increase in Malaysia. New technology was aggressively created to the market. Therefore, fourth generation wireless connection was developed to improve consumer's lifestyle and convenience them. WiMAX (Worldwide Interoperability for Microwave Access) is the fourth generation wireless connection which included in the categories of wireless MAN (Metropolitan Area Network). WiMAX wireless connection was exists in Malaysia but the buying behavior still consider unstable. The purpose of this study was to investigate the consumer perception and acceptance on the WiMAX wireless connection in Melaka. This study focused on three categories of consumer which was Baby Boomers generation, Generation X and Generation Y in order to identify their acceptance level for the WiMAX wireless connection. This was a descriptive research and using survey strategy to collect primary data. In the study, quantitative method was conducted to collect the relevance data from the Internet users. Furthermore, researcher was distributed 150 questionnaire surveys to the consumers who live in Melaka. Data collected is analysed by using the SPSS 20.0. The results show the consumer perception and acceptance had positive relationship towards the WiMAX wireless connection. This study proved that Technology Acceptance Model (TAM) and perceived quality can be efficiency influence the consumer. As a conclusion, WiMAX wireless connection can spread aggressively in the Melaka since the consumers had good perception and willingness to accept this new technology.

Keywords: consumer perception, consumer acceptance, technology, TAM, WiMAX wireless connection

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machine
CP	Perceived Quality
CAE	Perceived Ease of Use
CAU	Perceived Usefulness
CDM	Cash Deposit Machine
DV	Dependent Variable
IP	Internet Protocol
IV	Independent Variable
JARING	Joint Advanced Integrated Networking
MAN	Metropolitan Area Network
MCMC	Malaysian Communications and Multimedia Commission
MIMOS	Malaysian Institute of Microelectronic Systems
P1	Packet 1 Network
QOS	Quality of Service
SPSS	Statistical Package for Social Science
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
WiMAX	Worldwide Interoperability for Microwave Access
YES	YTL Corporation

LIST OF SYMBOL

H₀	Null Hypothesis
H₁	Alternative Hypothesis

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CHAPTER 1

INTRODUCTION

1.1 Background of study

Nowadays, wireless connectivity is increasingly pervasive and persuasive for enabling the true mobility. Most of the consumers rely on the network to absorb knowledge or connecting with people. Development of the network not only attracts younger people but also elder's people. Sometime, the elder's people utilize network to communicate with their child who are study in oversea. Previously, Wi-Fi access is typically highly contended and has poor upload speeds between the router and the internet (Burak, 2003). Seen there are large population are using the Internet and the Wi-Fi access cannot meet the requirement of the consumer, thus, firms have opportunity to create Worldwide Interoperability for Microwave Access (WiMAX) wireless connection.

According to the Mohamad and Rahman (2008), WiMAX is a wireless digital communications system, also known as Institute Electrical and Electronics Engineering (IEEE 802.16), that is intended for wireless "metropolitan area networks". WiMAX wireless connection coverage around 30 until 50 kilometers, which surpass the existing coverage barrier in wireless wide band access (Ma, 2004). Hence, the existence of the WiMAX wireless connection would provide consumers a higher speed rate and a better coverage area.

The first licensee of WiMAX wireless connection is Packet 1 Network (P1) and following by YTL Corporation (YES), Asiaspace commercially and Redtone International. P1 and YES make heavily promotion in urban area liked Kuala Lumpur and Johor Bahru. However, they are not widely promoted in Melaka.

Malaysia Government was aggressively spread the WiMAX wireless connection in year 2008. According to the report of Strategy Analytics (2008), Malaysian government has aggressive plans to grow broadband penetration to 75% of households in Malaysia by 2010; therefore, WiMAX wireless connection is the choice to help meet its goals. Thus, this study is to investigate the perception and acceptance of the WiMAX wireless connection users in Melaka.

1.2 Problem Statements

WiMAX wireless connection still considered a new technology and there was lack of research towards this new technology. WiMAX wireless connection was exists for a long time in Melaka but still not all consumers know about this wireless connection.

Some of the consumers cannot differentiate the differences between Wi-Fi and WiMAX wireless connection. Therefore, the uncertainty would resist consumer to use the WiMAX wireless connection.

Besides that, consumer acceptance of the WiMAX wireless connection also a problem because WiMAX wireless connection considers was a new wireless connection technology in Melaka. According to the Keng-Boon Ooi , Jia-Jia Sim, King-Tak Yew and Binshan Lin (2011), Malaysia is considered slow in the adoption and diffusion of broadband adoption. Therefore, it was difficult to identify the consumer of WiMAX wireless connection.

1.3 Research Questions

The research questions of this study as below:

1.3.1 Who are the users of WiMAX wireless connections in Melaka?

1.3.2 What is the consumer perception towards WiMAX wireless connection in Melaka?

1.3.3 How is the acceptance level of WiMAX wireless connection in Melaka?

1.4 Research Objectives

The objectives were to investigate the acceptance and perception of the consumer towards the WiMAX wireless connection in Melaka. The objectives of this study can be constructed as below:

1.4.1 To identify the users of WiMAX wireless connection in Melaka.

1.4.2 To investigate the consumer perception of WiMAX wireless connection in Melaka.

1.4.3 To examine the acceptability of the consumer for WiMAX wireless connection in Melaka.

1.5 Scope and Limitation of Study

The scope of this research is to investigate the consumer perception and acceptance for the WiMAX wireless connection in Melaka. This study was conducted in Melaka to examine the acceptability and perception of the consumer towards the WiMAX wireless connection.

The respondents were collected from the consumers who live in Melaka. Basically, the respondents were above 18 years old who were affordable to use the

WiMAX wireless connection. Respondents divided into three categories which were Baby Boomers generation (above 49 years old), Generation X (37 years old until 48 years old) and Generation Y (19 years old until 36 years old)

There were some limitations in this study. Firstly, this study focused only in Melaka area with specific location choose for examine consumer perception and acceptance of WiMAX wireless connection. Secondly, the researcher assuming the respondents answers with logical and honestly.

1.6 Important of Study

This study was intended to find out about consumer perception and acceptance towards the WiMAX wireless connection. This study was beneficial to the consumer to provide a better understanding of WiMAX wireless connection. Understanding of the consumer could be influence their perception. Hence, indirectly improve consumer buying behaviour for the WiMAX wireless connection.

Besides that, firms should obtain the consumer perception to improve their performance such as promotion strategy. Thus, firms should promote WiMAX wireless connection in Melaka aggressively.

The data of this study could provide to the government agencies such as Malaysian Communications and Multimedia Commission (MCMC) to improve their awareness of the facility for the WiMAX wireless connection in Malaysia.

1.7 Summary

This chapter included the background of study, problem statements, research questions, research objectives, scope and limitations of the study and important of study. This research is well explained in the Chapter 2 that is the literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter discussed about the Internet in Malaysia and overview of WiMAX wireless connection. The element of the consumer perception would be mention, included the perceive quality. The elements of the consumer acceptance also would be mention which included the unfilled needs and wants, personalities and driving force. Introduce of the Internet in Malaysia would be discuss in section 2.2 and 2.2.1 whereas the overview of WiMAX wireless connection would mention on section 2.3. To clearly explain for the WiMAX wireless connection, market and benefit of WiMAX wireless connection would explain on section 2.3.1 and 2.3.2. To make a clear scenario, element of consumer perception would be discuss in section 2.4 while section 2.5 would explain about the elements of consumer acceptance. Follow by section 2.6 and 2.7 which is the moderating variable for younger people and elder's people and theoretical framework. Hypothesis would be mention on section 2.8. Lastly, summary would be presented in section 2.9.

2.2 Internet in Malaysia

Malaysia's Internet initiative and development began in 1990 with the establishment of Malaysian Institute of Microelectronic Systems (MIMOS) and the

subsequent launching of Joint Advanced Integrated Networking (JARING) as the main Internet Service Provider (Salman, 2013). The year 1995 was considered the beginning of the Internet age in Malaysia. The growth in the number of Internet hosts in Malaysia began around 1996 (Salman, 2013).

Malaysia government had earlier begun formulating a national strategy for telecommunications, including the Internet. There were several important documents and strategies in the Malaysia national information policy. One of them is Malaysia's Vision 2020 launched in 1991 by Dr Mahathir, the then Prime Minister (Salman, 2013). Dr Mahathir set the Vision 2020 to motivate the country go in the future and outlined the goal to become a developed nation come 2020. National strategy for telecommunications is one of the driving forces to achieve the Vision 2020.

Internet was becoming popular in Malaysia because it is a place where people share their ideas, build communities, shape the future democratically, and promote a new way of doing business (Paynter, 2001). People can stimulate the ideas or trigger innovation by refer previous technologies through the Internet.

2.2.1 Trends of Internet Users

Global Internet users and penetration rate were shown as below from year 1995 until 2009. Graph indicated the number of Internet users globally had grown dramatically in the past 15 year. Number of Internet user increase when the numbers of population increase. Graph show the higher consumer acceptance for the Internet from year 1995 until 2009. Since consumer had higher acceptance for the Internet therefore, Internet had high potential to develop in the future.

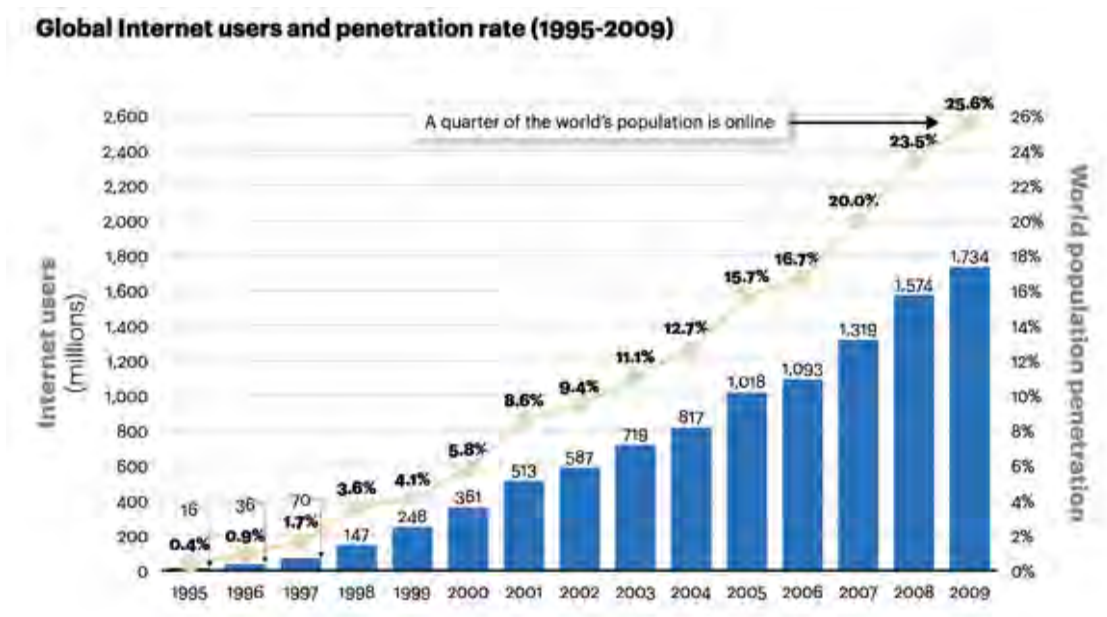


Figure 2.1 Global Internet users and penetration rate from year 1995 until 2009

(Source: Nielsen, ITU; A.T. Kearney analysis)

Based on the Figure 2.2 as below, the graph indicated the trends of Internet users in Malaysia from year 2002 until 2010. Trends show the Internet users in Malaysia had a great potential to growth after year 2010. Besides that, began from year 2002 Internet users were gradually increased until year 2010. The Internet user in Malaysia was last reported at 15989772.57 in 2010, according to a World Bank report published in 2012.

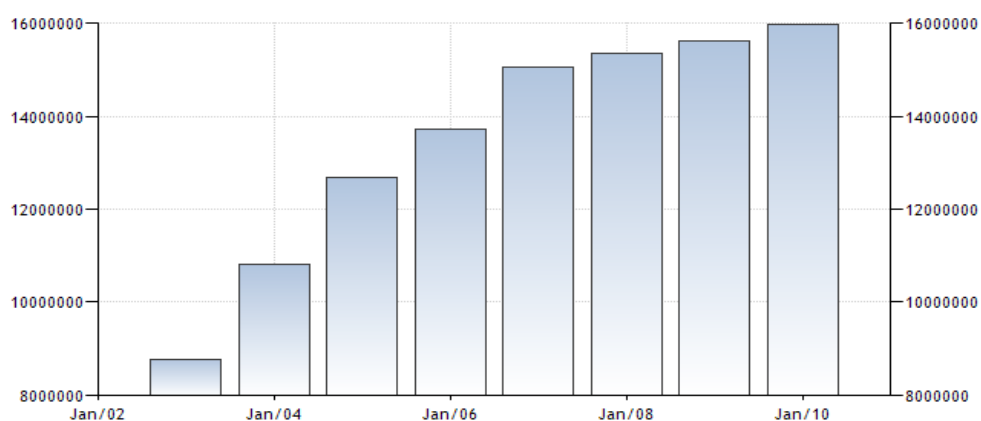


Figure 2.2: Internet users in Malaysia

(Source: World Bank, 2012)