M-commerce: opportunities and challenges

Moreover, the advancement of telecommunications and internet technologies has created new model of commerce, the borderless commerce or e-commerce. The terminology refers to cross-nations or even cross-continents trade and commerce. This development goes further as Internet is accessible not only via desktop computers but also via mobile devices like PDAs and mobile phones. The benefit of using mobile commerce (m-commerce) is attractive.

Say, a woman is shopping at a mall and decides to buy some clothes.

Unfortunately, when she is at a cahier, she finds that her debit card has no enough balance to pay the clothes or her credit cards are out of limit. In this situation, she called her husband to transfer some money to her account. Although her husband is in a meeting that is far from a bank, he is still able to do the fund transfer by using his mobile phone and log into a bank’s mobile portal. Finally, in few minutes, the woman’s bank account has enough balance to pay the clothes.

Similarly, mobile phones can also act as a virtual debit card when it is used as a payment method for vending machines. The method of this transaction is by sending sms (short message services) from users’ mobile phones and typing the short number that is displayed in the vending machines. When the server of the vending machines received this sms, they ask the telecommunication carrier to deduct some amount of money from the person’s prepaid balance or to add a transaction into his next billing statement. 3. 1 Challenges of Mobile Commerce

Currently, there are a number of mobile commerce applications that can be used by consumers with suitable handsets. For example, now customers in some countries like Japan and UK shop via their mobile handsets exactly similar to shopping in malls.

The applications include mobile banking (financial services), advertising, product location and shopping, auction and reverse auction, and entertainment, to name a few (Varshney and Vetter, 2001). Table 1 shows summary of mobile e-commerce that is now available in market.

The table also explains the relevant questions for each mobile commerce applications. Among twelve issues in mobile commerce, this paper only considers three of them; they are security issues of mobile commerce, development of complex application in limited speed of mobile processor, and human-handhelds interface through the development of attractive graphical user interface in mobile devices (Tarasewich, Nickerson, and Warkentin, Merrill, 2002). 3. 1.

1 Security Issues of Mobile Commerce

Amidst the increasing number of consumers that shop online via mobile devices, there is a potential threat that could prevent the fast adoption of mobile commerce; the threat is security. It is known that electronic commerce including e-commerce is potential to malware that contains viruses, adwares, or hijackers that collect our credit card information and sending it into a remote host for further criminal actions. In order to eliminate this threat, mobile application developers provide high-level threat

into personal and corporation confidential information such as password and personal identification number (PIN).

3.

1. 2 Speed of Mobile Processor Since computer technology has gone mobile, the applications and computer program also follow. Therefore, it is also common to find many applications that tailored to work on mobile devices such as wireless e-mail and Microsoft Office for mobile handsets. However, mobile devices have some drawbacks such as limited bandwidth allocation that restricts the use of several mobile applications such as video conferencing over the phone, high-speed internet, bus on demand and may others.

In addition, mobile handhelds are also limited in processor speeds in which highest processor speed for typical PDAs is about 400 MHz while desktop computers have achieved more than 2 GHz. 3. 1. 3 Communication between different Messaging Services The question is what type of interface that between the messaging services. Fortunately, to simplify and enable customers to use mobile devices, currently, there is new module called a hyperbolic tree that allows users to view and present their information on an easy-to-use, interactive, multi-dimensional tree, with additional visual navigation features.

By definition, hyperbolic trees are dynamic visualizations, just like tree map, fisheye view, cone trees, cam trees, and perspective wall that based on interactive manipulation of the structure of the information (Ovaska, 2004). The interesting part in the development of visualization in mobile handhelds

is that fact that such devices such as smart phone and PDA have small screen than desktop computer. This fact underlies the way information presented in the devices. 3. 2 Potential of Mobile Commerce Mobile commerce is the next step of online commerce.

Therefore, the opportunity for mobile commerce lies on the number of mobile service penetration rates. According to ITU (2005), UK records 62% of mobile penetration rates. This considerably high penetration rate has put mobile subscribers in the U. K. to surpass those in fixed phone lines and imply that mobile commerce will be easily adoptable by U.

K. consumers. Table 2 shows U. S. internet penetration rate compared to other countries in the world. Table 1 shows summary of mobile e-commerce that is now available in market.

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internet penetration rate compared to other countries in the world. Therefore, since U. K. consumers have used to browsing and shopping online, there are factors that U.

K. mobile carriers should pay attention.

The factors are to find and collaborate with mobile commerce providers so that they can boost the M-Commerce traffic and thus, revenue. The potential of conducting mobile commerce in the U. K. also bases on the facts that the country has many mobile subscribers.

According to International Telecommunication Union (2006), U. K. has 61 million of mobile customers as of January 2006. If 20% of the customers (15 million users) are active subscribers of M-commerce with average spending $100 per month.

Therefore, the market for mobile commerce in the UK is $18 billion per year. The condition highlight that mobile commerce is attractive service that mobile service providers like Vodafone must develop by collaborating with merchants and content providers (cp) that build the mobile commerce applications.

The development of m-commerce is also backed up by the recent development on 3G (third generation) mobile technology that gives opportunity for subscribers to have faster access to browse internet via mobile phones and conduct m-commerce transaction.

British Telecom, for example, estimates that in 2002 they have about 150, 000 customers of broadband services that is potential to be the active users of mobile commerce (Verdin, 2002) 4. Conclusion Recent progress and invention in mobile and wireless technologies has caused the shifting paradigm shift from desktop computers to mobile devices. Recently, it is usual to find consumers using their Personal Digital Assistants (PDAs), smart phones, and notebooks that strengthen the facts that business has gone mobile so that the consumers can do all things over wireless gadgets the same with doing by desktop computer (Intel, 2004).

The improvement in mobile devices capability also attracts customers to buy new phones and new customers segment that also target teenagers.

This condition becomes issues for telecommunication companies and content providers to develop new killing applications besides voice communication that will increase the corporate revenue. The new application is data communication that comes in many forms. Concerning data communications, this paper has discussed several issues/challenges and opportunities in UK mobile telephone industry.

To be specific, the point of discussion is about the development of mobile commerce (M-Commerce) that takes advantages of increasing number of mobile users and the development of computer technology.

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