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# M-Commerce: Perception of Consumers in Malaysia

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## Abstract

The main objective of this paper is to review the M-Commerce in Malaysia. Moreover, to review further the main intention of using M-Commerce among Malaysians and also the challenges faced in the use and adoption of M-commerce. It is clear that with the implementation and development, as well as users' acceptance and satisfaction, M-Commerce is growing rapidly in Malaysia. M-Commerce growth can be viewed from several perspectives: Involvement of more mobile network operators, almost all commercial banks offer M-Commerce services and the increase in market size from year by year. However, there are several challenges that need to be addressed, especially the level of security, the improvement of technology and the level of consumer satisfaction.

Keywords: **M-Commerce, Intention to use M-Commerce, Challenges, Malaysia**



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## INTRODUCTION

Mobile commerce (M-Commerce) refers to the pairing of mobiles devices that is conducted using a mobile terminal and a wireless access network [1] with commercial transaction [2] and other usage activities, especially content delivery, transactions, location-based services, and entertainment activities [3]. The released of first smartphone in 1999 [4] and widely use of the smart phones has further boosted the M-Commerce. Between 2013 and 2017, overall mobile phone penetration rate will increase from 61.1% to 69.4%. The use of smartphone alone surpassed 1 billion in 2012 and increased to 1.75 billion in 2014 [5]. 50.3% of E-Commerce traffic is from mobile phones compared with only 49.7% from computers [6]. M-Commerce sales in 2014 totalled $204 billion and it is expected to reach as much as $ 626 billion in 2018 [7]. A research carried out related to mobile commerce in Australia shows that there are 10 major items frequently purchased. Clothing, shoes, accessories, books and gifts are the most popular purchased using mobile phones. Besides that, financial products and financial services are also increasingly popular [8].

## M-COMMERCE IN MALAYSIA

The development of M-Commerce in Malaysia is in line with the growth of mobile network operators. It has grown from three major players and has increased to 20 mobile network operators (Table 1). Three major mobile network providers in Malaysia are Celcom (13.4 million), Maxis (12.4 Million) and Digi (10.9 Million) [9]. Overall, the total active mobile subscribers in Malaysia are 41,324,700 and the mobile penetration rate is high, which is 139%. The majority of customers are using prepaid services compared to postpaid services [10].

**Table 1:** Mobile Network Operators in Malaysia.

| **S. No** | **Mobile Network Operators** |
|---|---|
| 1. | ALTEL |
| 2. | Buzz me |
| 3. | Celcom |
| 4. | Clixster |
| 5. | DiGi |
| 6. | FRiENDi Mobile |
| 7. | Maxis |
| 8. | Merchantrade |
| 9. | MY Evolution |
| 10. | P1 |
| 11. | Redone |
| 12. | Smart Pinoy |
| 13. | SpeakOut Wireless |
| 14. | TM |
| 15. | Telin Malaysia |
| 16. | Tron |
| 17. | TuneTalk |
| 18. | U Mobile |
| 19. | XOX COM |
| 20. | Yes 4G |

Before 2013, there has been a speculation regarding the trend of M-commerce in Malaysia. From the marketers' perspective, these trends are more to deliver a personal touch, curate the commerce and also to integrate the business with M-Commerce. Even, the rise of affiliate services and marketplaces help marketers to promote their products and consumers are lured by many marketing strategies using M-Commerce. Overall, consumers see M-Commerce as a tool to help them to shop and pay. While marketers see this trend as new opportunity and need to capitalize on this emerging trend [10].

The introduction of mobile banking has also boosted the implementation and development of mobile commerce. Maybank was the first financial institution in Malaysia to introduce M-banking services in 2002 through the SMS services. Maybank was moving a step further in 2006 to introduce M2U mobile and M2UMap in 2009 [11]. Overall, there are eight local financial institutions and five foreign financial institutions offering mobile banking in Malaysia (Table 2) [12].

**Table 2:** List of Banks Offering Mobile Banking Services.

| S. No | Bank | Status |
|---|---|---|
| 1. | Al Rajhi Banking & Investment Corporation (Malaysia) Berhad | Foreign bank |
| 2. | AmBank (M) Berhad | Local bank |
| 3. | Bank Islam Malaysia Berhad | Local bank |
| 4. | Bank Simpanan Nasional | Local bank |
| 5. | CIMB Bank Berhad | Local bank |
| 6. | Citibank Berhad | Foreign bank |
| 7. | Hong Leong Bank Berhad | Local bank |
| 8. | HSBC Bank Malaysia Berhad | Foreign bank |
| 9. | Malayan Banking Berhad (Maybank) | Local bank |
| 10. | OCBC Bank (Malaysia) Berhad | Foreign bank |
| 11. | Public Bank Berhad | Local bank |
| 12. | RHB Bank Berhad | Local bank |
| 13. | Standard Chartered Bank Malaysia Berhad | Foreign bank |
| Source: Bank Negara Malaysia [12] | | |

M-Commerce market size has been increased to RM467 million in 2011 [13], compared to 2010 was only RM101 million. This shows the explosive growth of 370%. If compared with the traditional E-commerce, the growth in 2011 only increased by 9% [14]. The use of mobile phones mainly focused more on three main activities, which are SMS, voice calls and social networks [15]. The most popular categories of items purchased using the mobile phone is electrical goods. This is followed by items such as fashion and accessories, food and beverage, health and beauty, and finally home products (Table 3) [16].

**Table 3:** Smartphone Usage.

| S. No | Smartphone usage | Percentage |
|---|---|---|
| 1. | SMS | 91% |
| 2. | Voice calls | 67% |
| 3. | Browse internet | 71% |
| 4. | Emails | 53% |
| 5. | Apps usage | 54% |
| 6. | Instant message | 48% |
| 7. | Social network | 69% |
| 8. | Video clips | 40% |
| Source: Wong [16] | | |

## CONSUMER’S INTENTION TO USE M-COMMERCE

One of the major factors which will affect the user's intention to use M-Commerce is motivation. Chong [3] highlights that motivation includes intrinsic (examples perceived ease of use and perceived enjoyment) and extrinsic (example perceived usefulness).

According to Levesque et al. [17] *“intrinsic motivation is the most self-determined, or autonomous, form of motivation” and “extrinsic motivation refers to the forms of regulation that underlie activities that are performed as a means to an end”*. From the literature review was conducted, it is clearly that the most popular factor is related to perceived ease of use (examples Wei et al.; Yap et al. [18]; Noordin et al. [19]; Saifullah et al. [20]; Chong et al. [21]; Chan et al. [22]; Chong [23]; Chong [24]. This is followed by perceived usefulness (examples Wei et al.; Yap et al. [18]; Noordin et al. [19]; Saifullah et al. [21]; Chong et al. [21]; Chan et al. [22]; Chong [3]; Chong [24], social influence (examples Wei et al.; Yap et al. [18]; Noordin et al. [19]; Saifullah et al. [20]; Chong et al. [21]; Chan et al. [22]; Chong [3]; Chong [24], perceived trust (examples Wei et al.; Noordin et al. [19]; Sreenivasan et al. [24]; Saifullah Sadi et al. [20]; Chong et al. [21]; Chong [3] and perceived cost (examples Muthaiyah [25]; Wei et al.; Yap et al. [18]; Chong et al. [21].

According to Chong et al. [21], Chong [3] and Chong [23], demographic profiles such as education, age and gender also strongly influence the user's intention to use M-Commerce. Overall, all factors can be found in the Table 4.

**Table 4:** Intention to Use M-Commerce in Malaysia.

| **Reference Variable** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Perceived usefulness | | X | X | X | | X | | X | | X |
| Perceived ease of use | | X | X | X | | X | X | X | X | X |
| Social influence | | X | X | X | | X | X | X | | |
| Perceived trust | | X | | X | X | X | X | | X | |
| Perceived cost | X | X | X | | | | X | | | |
| Diffusion of innovations | X | | | | | | | | | |
| Services/Contents provided by mobile service provider | X | | | | | | | X | | |
| Interoperability of standards | X | | | | | | | | | |
| Attitude toward using M-Commerce | | | X | X | | X | | | | |
| Perceived Behavioural Control | | | | X | | X | | | | |
| Privacy | | | | | X | | | | | |
| Purchasing power | | | | | X | | | | | |
| Location-based services | | | | | X | | | | | |
| Perceived security risk | | | | | | | | X | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Perceived enjoyment | | | | | | | | X | X | X |
| Transaction | | | | | | | | X | | |
| Entertainment | | | | | | | | X | | |
| Variety of services | | | | | | | X | | | |
| Trialability | | | | | | | X | | | |
| Demographic profiles | | | | | | | X | | X | X |
| Personal innovativeness | | | | | | | | | X | |
| Perceived value | | | | | | | | | X | |
| Source: Muthaiyah (2004), Wei et al (2009), Yap and Hii (2009), Noordin and Saifullah Sadi (2010), Sreenivasan and Mohd Noor (2010), Saifullah Sadi and Noordin (2011), Chong et al (2012), Chan and Chong (2013), Chong (2013a), Chong (2013b) | | | | | | | | | | |

## CHALLENGES

The industry players have been expecting the popularity of M-Commerce in Malaysia since mid-2005 [26]. However, there are several challenges that need to be overcome for the use of M-Commerce.

M-payment gateways still do not fully provide an interface that can be customized to suit the apps user interface and also user experience. Secondly, related to M-payment, users are fully concerned about the level of security, plus the complexity of making payments via M-payment [26].

The use of M-payment only covers 0.3% of the total payment. It shows consumers feel less need for this service. The majority of Malaysians have a common bank account and easier to make payments online compared with M-payments. This is followed by more than eight million Malaysians have a credit card. Another factor that will discourage users to use M-Commerce will be there is no major mobile operator enjoys a monopoly of the sector. Another factor that discourages m-payments in the Malaysia is that none of the major mobile operators enjoy a monopoly of the sector. To increase the reliability and the use of M-payment among consumers, the government has already launched two major projects under the Digital Malaysia initiative in 2012, which is to develop a trusted mobile digital wallet system and e-payment services [27].

Finally, satisfaction, as well as user experience is one of the challenges to be overcome. Apart from the level of security of M-payment, another important aspect is technology of mobile phone. McLachlan [28] provides the tips of the iceberg though and key problems that need to be concerned [29].

- The quality of the web site performance. The coming in web site should not more than 2Mb for the initial page load and many hundreds of kilobytes for subsequent pages.
- The design of the web site must afford the conversion action for the mobile use.
- The mobile is not just about phone, but it is also about tablet too.

## CONCLUSION

Development of M-Commerce in Malaysia is growing rapidly with the increasing number of mobile network operators. Maybank was the first commercial bank offering M-Commerce services in Malaysia. The implementation of M-Commerce keeps booming in Malaysia when most of the commercial banks in Malaysia also offer this service. Overall, the market size of M-Commerce in Malaysia is growing rapidly. It can be seen from the increased market size of RM101 million in 2010 to RM457 million in 2011. While the intention to use M-Commerce is increasing among consumers, there are several challenges that need to be overcome and need to be addressed, such as security issues, improving the efficiency of technology and user satisfaction.

## REFERENCES

1. Maity M, Dass M (2014) Consumer Decision-Making Across Modern and Traditional Channels: E-Commerce, M-Commerce, In-Store. Decision Support Systems 61: 34-46.

2. Veijalainen J, Terziyan V, Tirri H (2006) Transaction Management for M-Commerce at A Mobile Terminal. Electronic Commerce Research and Applications 5: 229-245.

3. Chong AYL (2013a) Predicting M-Commerce Adoption Determinants: A Neural Network Approach. Expert Systems with Applications 40: 523-530.

4. Rose F (2001) Pocket Monster: How DoCoMo's Wireless Internet Service Went From Fad to Phenom - And Turned Japan Into the First Post-PC Nation. Wired 9. Available at: http://archive.wired.com/wired/archive/9.09/docomo_pr.html

5. eMarketer (2014) Smartphone Users Worldwide Will Total 1.75 Billion in 2014. eMarketer. Available at: http://www.emarketer.com/Article/Smartphone-Users-Worldwide-Will-Total-175-Billion-2014/1010536

6. Lütke T (2014) Mobile Now Accounts for 50.3% of All Ecommerce Traffic. Shopify Inc. Available at: http://www.shopify.my/blog/15206517-mobile-now-accounts-for-50-3-of-all-ecommerce-traffic

7. Siwicki B (2014) Mobile Commerce Will Be Nearly Half of E-Commerce by 2018. Internet Retailer. Available at: https://www.internetretailer.com/2014/03/10/mobile-commerce-will-be-nearly-half-e-commerce-2018

8. PayPal Australia (n.d) What Are Consumers Buying Using M-Commerce? Available at: https://www.drivingbusinessonline.com.au/articles/what-are-consumers-buying-using-mcommerce

9. Forest Interactive (n.d) Southeast Asia (SEA) Countries VS Malaysia Statistics 2014. Available at: http://www.forest-interactive.com/statistics-2014/#dp_lightbox/1

10. Loh B (2014). Startup tip: Think mobile commerce. Digital News Asia. Available at: http://www.digitalnewsasia.com/insights/startup-tip-think-mobile-commerce

11. Maybank (2009) Maybank Introduces First Ever Mobile Banking Services Information for iPhone Applications in Malaysia. Available at: http://www.maybank2u.com.my/mbb_info/m2u/public/personalDetail04.do?channelId=Personal&cntTypeId=0&cntKey=AU09.08.10&programId=AU02.02-ArchiveNews&newsCatId=/mbb/AU-AboutUs/AU02-Newsroom/2009/08&chCatId=/mbb/Personal

12. Bank Negara Malaysia (n.d) List of Regulatees. Available at: http://www.bnm.gov.my/index.php?ch=ps&pg=ps_regulatees&eId=box1

13. Wong CK (2013a) The State of Mobile Commerce in Malaysia (Part 1). ECommerce MILO. Available at: http://www.ecommercemilo.com/2013/06/the-state-of-mcommerce-malaysia-part1.html#.VLYyvoFv6Ul

14. Yapp E (2012). M-Commerce Spending in Malaysia Quadrupled: PayPal. Digital News Asia. Available at: http://www.digitalnewsasia.com/node/314

15. Wong CK (2013b) The State of Mobile Commerce in Malaysia (Part 2). ECommerce MILO. Available at: http://www.ecommercemilo.com/2013/06/the-state-of-mcommerce-malaysia-part2.html#.VLY2goFv6Uk

16. Wong CK (2014) E-Commerce Infographic: Understanding Online Shoppers in Malaysia. ECommerce MILO. Available at: http://www.ecommercemilo.com/2014/01/ecommerce-infographic-malaysia-understanding-online-shoppers.html#.VLY4r4Fv6Uk

17. Levesque C, Copeland KJ, Pattie MD, Deci E (2010) Intrinsic and Extrinsic Motivation. International Encyclopedia of Education, (3rdedn) pp: 618-623.

18. Yap CS, Hii JWH (2009) Factors Affecting the Adoption of Mobile Commerce in Malaysia. Icfai Journal of Information Technology 5: 24-37.

19. Noordin MF, Saifullah Sadi AHM (2010) The Adoption of Mobile Commerce in Malaysia: An Exploratory Study on the Extension of Theory of Planned Behavior. Journal of Business Analyst 31: 1-30.

20. Saifullah Sadi AHM, Noordin MF (2011) Factors Influencing the Adoption of M-Commerce: An Exploratory Analysis. 2011 International Conference on Industrial Engineering and Operations Management. Kuala Lumpur, Malaysia.

21. Chong AYL, Chan FTS, Ooi KB (2012) Predicting Consumer Decisions to Adopt Mobile Commerce: Cross Country Empirical Examination between China and Malaysia. Decision Support Systems 53: 34-43.

22. Chan FTS, Chong AYL (2013) Analysis of the Determinants of Consumers' M-Commerce Usage Activities. Online Information Review 37: 443-461.

23. Chong AYL (2013b) Mobile Commerce Usage Activities: The Roles of

Demographic and Motivation Variables. Technological Forecasting and Social Change 80: 1350-1359.

24. Sreenivasan J, Mohd Noor MN (2010) A Conceptual Framework on Mobile Commerce Acceptance and Usage Among Malaysian Consumers: The Influence of Location, Privacy, Trust and Purchasing Power. WSEAS Transactions on Information Science and Applications 5: 661-670.

25. Muthaiyah S (2004) Key Success Factors of 3rd Generation Mobile Network Services for M-Commerce in Malaysia. American Journal of Applied Sciences 1: 261-265.

26. Business Circle (2012) Is Mobile Commerce Here, Finally? 10 October. Available at: http://www.businesscircle.com.my/is-mobile-commerce-here-finally

27. MEF (2014) Understanding the Malaysian Mobile Industry. Available at: http://mefminute.com/2014/07/11/understanding-the-malaysian-mobile-industry

28. McLachlan P (2012) What Are the Biggest Problems for Mobile Commerce? Quora. Available at: http://www.quora.com/What-are-the-biggest-problems-for-mobile-commerce.

29. Toh TW, Marthandan G, Chong AYL, Ooi KB, Arumugam S (2009) What Drives Malaysian M-Commerce Adoption? An Empirical Analysis. Industrial Management & Data Systems 109: 370-388.