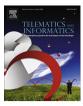


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# Hall of fame for mobile commerce and its applications: A bibliometric evaluation of a decade and a half (2000–2015)



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#### ABSTRACT

This study intends to evaluate the current development and trends of researches on mobile commerce and its applications through bibliometric analysis. Several publication characteristics were examined, on top of lists for most cited articles on this area and most studied mobile commerce applications. Through the data gathered from Web of Science database, this study employs several measures, namely impact factor, h-index, and citation counts to evaluate the productivity, impact, and research performance of countries, journals, authors, and research institutions. The number of publications are increasing yearly, with USA leading most of the times. Several international collaboration patterns were identified, and surprisingly some Asian countries have comparable performance to Western countries, in terms of the measures employed. Likewise, Asian authors and research institutions are found to have outstanding achievements too. Moreover, both the most studied mobile commerce applications and most cited lists offer some future directions. This study serves as a forerunner in using bibliometric analysis to evaluate researches on mobile commerce and its applications, and expected to benefit researchers in the area of mobile commerce, by identifying potential research directions. In addition, this study also serves as a useful guide to potential researchers and practitioners. However, improvements could be made, if extra analyses, such as content analysis, are added in.

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#### 1. Introduction

Mobile commerce (m-commerce) is a rising discipline that involves mobile computing technologies (Faqih and Jaradat, 2015), and it has high popularity and full of potentials (Nilashi et al., 2015). Other than traditional brick-and-mortal operating style, businesses are extending their reach to the customers by m-commerce (Maity and Dass, 2014). Enabling by mobile technologies, m-commerce allows businesses to deliver unique services (Kim et al., 2008a), and serves as a new business model for businesses, which might eventually deliver large impacts to businesses (Chong et al., 2012). The popularity of m-commerce is increasing (Tan et al., 2014), hence it is foreseen that m-commerce has substantial influence on businesses and society in the future (Chen et al., 2011).

In comparison with electronic commerce (e-commerce) conducted through wired internet, m-commerce works in a separate operating environment, as it requires mobile devices and mobile internet to operate (Kim et al., 2008a). Mobile devices (e.g., smartphones and tablets) are becoming an essential in daily life, as they make communications convenient (Dinh et al., 2013; Wong et al., 2015), and enable various types of mobile services (Jung, 2014), such as SMS, MMS, GPS, mobile payment, and mobile banking (Hsiao and Chen, 2015). Other than offering useful functions, mobile devices are being used for

entertainment purposes too, such as mobile music (Sim et al., 2014). Besides, mobile devices are the fastest adopted consumer products, compared to computers (Chen et al., 2011). Undeniably, the rapid growth of mobile devices, such as smartphones, has promoted the growth of m-commerce to its current state (Faqih and Jaradat, 2015). The use of mobile devices in m-commerce has formed two unique characteristics of m-commerce, namely ubiquity and localization, which are not found in e-commerce and allow businesses to connect with consumers anytime and anywhere (Huang et al., 2015). In addition, Krotov et al. (2015) also supported that m-commerce carries some characteristics that distinguish it from e-commerce, one of it being ubiquity.

Owing to the above facts, numerous applications on m-commerce have emerged in business world (Ngai and Gunasekaran, 2007). They are mobile banking, mobile payment, mobile entertainment, mobile music, mobile learning, and etc. Accordingly, researches on m-commerce and its applications are in their blooming season in recent years, as researchers have been devoting their attention to this emerging research area. However, evaluation of these growing literatures has yet to be performed. As such, it is now a good timing to present a bibliometric study that evaluates the quantity and quality of research (Bakri and Willett, 2011) in this discipline.

Ngai and Gunasekaran (2007) once conducted a review on m-commerce research; nonetheless, the study only identified 149 articles published between 2000 and 2003, and listed a limited number of m-commerce applications. They opined that m-commerce applications list should be extended, as more applications emerge in future. Given the facts that researches on m-commerce and its applications have grown since the review, and with the huge emergence of m-commerce applications, it is therefore crucial to resume the work done by Ngai and Gunasekaran (2007) in this bibliometric study.

To the best knowledge of the author, a comprehensive bibliometric study for researches on m-commerce and its applications on a worldwide basis has yet to be done. With the purpose of fulfilling the said literature gap, this bibliometric study aims to generally analyze and evaluate the current development and trends of m-commerce research and its applications, through data gathered from Web of Science (WoS) database. Several publication characteristics such as years, countries, journals, authors, research institutions would be examined and presented. This study also lists the most cited articles and most studied m-commerce applications. Zyoud et al. (2014) have considered bibliometric analysis as a useful tool in comprehending the status quo and future of researches in a particular discipline. Therefore, this study is expected to benefit researchers, by identifying potential research directions for future studies. This would definitely help in shaping the m-commerce research in next decade. Besides, the results from the bibliometric analysis serve as a good reference guide to potential m-commerce researchers. They could know the most relevant journals in this discipline and start to search for articles. Moreover, the results are also beneficial to practitioners. They are able to get some ideas on what are the popular m-commerce applications currently and who are the experts to consult with, especially when it comes to policy and decision making. Concurrently, they also could know what are the journals to subscribe for, in order for them to get the first hand information.

### 2. Concept of m-commerce and its applications

Ever since the introduction of e-commerce, the ways business are being conducted have greatly changed (Ngai and Gunasekaran, 2007). In comparison with e-commerce applications, m-commerce offers additional benefits and unique services (Mahatanankoon et al., 2005). These services include location and localization services, among others (Faqih and Jaradat, 2015). Another unique function of m-commerce, ubiquity, allows users to access information anytime and anywhere (Chong et al., 2012; Krotov et al., 2015). This presents new opportunities to businesses in satisfying users' needs under different situations (Ha et al., 2012). Mobile banking, which allows users to perform banking activities through mobile devices, is one m-commerce application that provides ubiquitous and convenient services to users (Oliveira et al., 2014). Users are therefore, able to obtain information ubiquitously and enjoy the services provided by m-commerce service providers (Chong, 2013a), and these services include location-based services (Zhang et al., 2012). This particular type of service, which makes use of users' location information in real-time, has been perceived by Zou and Huang (2015) as an essential feature of m-commerce. One application of localization is delivering personalized messages to users based upon their selected preferences, which allows them to take lesser effort in seeking information needed (Eastin et al., 2016).

M-commerce is a subcategory of e-commerce (Ngai and Gunasekaran, 2007). However, Featherman et al. (2010) opined that m-commerce carries more potentials than e-commerce (Chan and Chong, 2013). Some researchers have narrowly defined m-commerce. To name a few, Hew et al. (2016a) and Kim et al. (2009) described m-commerce as business transactions conducted through mobile internet and network; while Wu and Wang (2005) viewed all direct or indirect transactions with monetary value conducted through wireless telecommunication network as m-commerce. This narrow scope of m-commerce was also used by Chong (2013b), who defined m-commerce as buying and selling goods and services via mobile devices.

Nevertheless, m-commerce should have a larger scope, as raised by Ngai and Gunasekaran (2007, p.4), who referred m-commerce as the "conduct of commerce via wireless devices", consented that m-commerce including, but not limited to transaction mode, as the term "commerce" activity carries a large scope of meaning. Concurring to the same view, Chong et al. (2012), elaborated that m-commerce activities are both informational and transactional based, concluded that m-commerce is not only limited to monetary transactions. Yadav et al. (2016), who deemed m-commerce as business activities that conducted through mobile devices under wireless environment, supported such views too.

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