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Review of Technology Adoption frameworks in Mobile Commerce

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Abstract

The purpose of this study is to review the literature of mobile commerce adoption based on technology adoption frameworks. This study reviewed 201 articles and adopted systematic literature review to analyze and highlight the usage of technology adoption theories in mobile commerce. Usage of TAM is popular than other TA frameworks whereas risks, trust and UTAUT gaining attention by to identify BI of mobile commerce users. The selection of articles is bound to the articles published in English only and not in other foreign language, inaccessible articles and articles from 2008-2016 shortlisted for this systematic review.

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Keywords: mobile commerce; m-commerce; Systematic Review; SLR; Literature Review; Technology adoption theories

1. Introduction

Owing to the rapid rise in internet technology and emergence of mobile devices, user-end market has changed its ways of doing many activities. It was only a decade ago that electronic commerce was a breakthrough technology innovation. However, it was replaced by mobile commerce in no time. One the major reasons of this transition is that the scope of this innovation is complex and wider. Since, its inception on mobile devices, mobile commerce has appeared as an extension to electronic commerce. The mobile commerce technology is essentially a synergy between a mobile device, wireless internet and a supporting software. Some of the studies targeted to explore the technical facet of mobile commerce evolution whereas others had focus on its application for commercial/business purpose such as mobile banking [1], mobile ticketing for railways, buses, and airway [2], mobile shopping [3], location-based services [4].

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The following definitions of mobile commerce evolved in the past ten years. According to Thakur and Srivastava, mobile commerce refers to “all activities related to a (potential) commercial transaction conducted through communication networks that interface with wireless devices” [5], whereas, Chong defined m-commerce which is “any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of mobile devices” [6]. Therefore, after reviewing these definitions mobile commerce can be considered for “all the activities (direct or indirect), via telecommunication wireless services using handheld electronic devices, which are related to monetary consumption or exhaustion of data services provided by private or public networks”.

Nonetheless, mobile commerce is still in its evolving phase and gaining attention phenomenally till date. Diverse studies were conducted by many academicians and scholars to explore the significant growth of mobile commerce adoption and factors affecting behavioural intentions, attitude and usage, in the past few years. It was found that developing nations of Asia like India, China, Taiwan, Japan and Singapore are the most potential markets in the world for mobile commerce acceptance, in contrast to the developed ones like US and Europe [7]. The scope of this systematic review is to highlight the state of growth in mobile commerce adoption studies based on technology adoption frameworks.

The current study explicitly focuses on the growth of mobile commerce adoption literature. Although, various mobile commerce studies found in the review process were based on various theories except technology adoption frameworks in the literature. To the best of the knowledge, very few studies investigated the state of art in this area specifically based on technology adoption frameworks in the last 5 years. Ngai reviewed mobile commerce and its applications in his study and found 65 studies based on technology adoption theory [8]. This study also intends to explore the frequency of construct usage in the literature of mobile commerce adoption. This study also focusses on the technology adoption theories widely used across the globe. Another purpose of this study is to highlight the type of studies in this area providing insights regarding various sample sizes chosen, theories applied in the respective studies. The present study has employed a systematic approach to explicate the synthesis of mobile commerce adoption and gaps in the literature. This paper is structured as follows: Section 1: Introduction, Section 2: Background of the technology adoption theories, Section 3: Research Methodology, Section 4: Data Scrutiny and Collection, Section 5: Results of the literature Review, Section 6: Conclusion

2. Background of Technology Adoption Frameworks

Technology adoption frameworks have been used and investigated in various areas. In some of the studies, the process approach was attempted to examine the insights of the processes [9- 10-11], while in others, the main focus was on the association between the technology adoption and the governing variables [12-13-14-15]. The dominant theories in the field of information system of technology adoption include: The Theory of Reasoned Action (TRA) [16], The Technology Acceptance Model (TAM) [17], Theory of Planned Behavior [18], Innovation of Diffusion Theory/ Diffusion of Innovations (IDT/DOI) [19] and Unified Theory of Acceptance and Use of Technology (UTAUT) [20].

The Theory of Reasoned Action postulates that beliefs influence attitudes toward a behavior as well as dependent on perceived subjective norms [16]. Further, Ajzen reassessed the theory and added another construct called perceived behavioral control [18]. It defines the individuals perceived level of difficulty or ease in performing a behavioural intention. Davis explains how user accepts a specific technology with the help of two imperative determinants, perceived usefulness and perceived ease of use [17]. Roger, defined innovation into five attributes that influence the behavior intention of a user viz., relative advantage, complexity, compatibility, trialability and observability [19]. Lastly, Venkatesh introduced four constructs combining eight technology adoption theories. Where *performance expectancy* posits benefits to a user of using a technology, *effort expectancy* posits the ease to use the technology by a user, *social influence* posits the significance of people (friends and relatives) who are important to a user while using a technology and *facilitating conditions* posits the

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