Industrial Engineering & Management
ISSN: 2169-0316

Choe, Ind Eng Manage 2013, 2:1
DOI: 10.4172/2169-0316.1000e113

Case Report Open Access

Human Factors in Research: M-Commerce Case

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Abstract

The importance of human factors is widely recognized. In this article, research of human factors was classified with the mobile commerce (m-commerce) as an application of human factors. The m-commerce market recently grows fast, and m-commerce has been diversely studied accordingly. Human factors in m-commerce, in particular, become more and more important for a business success. Based on a literature review on human factors in m-commerce, the research classification was made. It is expected to provide some useful information to readers who are interested in human factors or human computer interactions in m-commerce as well as the classification of human factors in research.

Introduction

As user centered designs are recognized as one of key success factors of a business, human factors in design are widely studied in many industries. Mobile commerce (m-commerce) is a typical area in which human factors matter a lot because users interact with mobile devices through user interfaces.

As a specialized area of electronic commerce (e-commerce), m-commerce refers to commercial transactions conducted with mobile devices through wireless telecommunication networks [1-4]. In the past, m-commerce only refers to monetary transactions. With the recent explosive increase of mobile devices, m-commerce has been extended to all applications using mobile devices through a wireless telecommunication network including e-mails, bank services, reservations, information search, games, etc [2]. M-commerce market has grown rapidly and its future is also promising in that m-commerce has some advantages over e-commerce such as portability, accessibility, convenience, personalization, easiness of use, etc. Due to the considerable applications and advantages, m-commerce has been diversely studied. In addition to technical aspects, human factors have been a main interest in m-commerce research. This article provides a classification of human factors-related research in m-commerce.

Human Factors in M-Commerce

Based on a review of literature since 2002, human factors-related research in m-commerce is classified into the following seven categories. (1) M-commerce vs. e-commerce. Articles in this category mainly provided an overview of m-commerce, or compared with e-commerce [5-8]. (2) M-commerce interfaces and usability. Articles in this category evaluated interfaces of mobile systems and their usability [9-11]. The interfaces or systems includes touch screens, small size computing devices, vehicle-mounted interfaces, electronic payment systems, electronic wallets, etc. (3) User requirements. Articles in this category aimed to analyze user requirements for m-commerce or attitudes towards m-commerce with diverse data collection methods [12-18]. (4) User satisfaction and loyalty. Articles in this category mainly provided behavioral models to increase user satisfaction and customer loyalty to m-commerce [2,13,19,20]. (5) M-trust. Articles in this category were focused on issues of system reliability or product reliability [21-24]. System reliability is whether the wireless network is secure or not. Product reliability is whether the products or the services on sale are trustable. (6) Technology acceptance. Articles in this category provided diverse models (TAM, TRA, TPB, UTAUT, etc.) of predicting technology acceptance or usage intention of m-commerce [3, 4,25-30]. (7) M-commerce applications and usages. Articles in this category showed a wide range of applications or usage cases of m-commerce [1,31-34].

Conclusions

Human factors' research has a wide range of focuses. For example, recent research in human factors in m-commerce is mainly categorized into m-commerce versus e-commerce, m-commerce interfaces and usability, user requirements, user satisfaction and loyalty, m-trust, technology acceptance, and m-commerce applications and usages. As m-commerce becomes more and more popular and it has several types of interactions between users and mobile devices, human factors' considerations should be given for quality services. Likewise, as modern systems, products, and services get complicated, human factors designs and related research are very important for a business success as well as user satisfaction.

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Received December 16, 2012; **Accepted** December 18, 2012; **Published** December 21, 2012

Citation: Choe P (2013) Human Factors in Research: M-Commerce Case. Ind Eng Manage 2: e113. doi:10.4172/2169-0316.1000e113

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