ARTICLE IN PRESS

Telematics and Informatics xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Telematics and Informatics

journal homepage: www.elsevier.com/locate/tele

Understanding behavioural intention to use information technology: Insights from humanitarian practitioners

Gaurav Kabra [a,*], A. Ramesh [b], Pervaiz Akhtar [c], Manoj Kumar Dash [d]

[a] Department of Operations Management, Xavier Institute of Management, Bhubaneswar, Odisha, India
[b] Department of Management Studies, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India
[c] Logistics Institute, Hull University Business School, University of Hull, United Kingdom
[d] Behavioural Economics Experiments and Analytics Laboratory, Indian Institute of Information Technology and Management, Gwalior, Madhya Pradesh, India

ARTICLE INFO

Article history:
Received 25 April 2017
Received in revised form 23 May 2017
Accepted 23 May 2017
Available online xxxx

Keywords:
Information technology
Humanitarian logistics
Humanitarian supply chain management
Supply chain management
Technology adoption
Unified theory of acceptance and use of technology

ABSTRACT

The contemporary research in the area of individual technology adoption mainly focuses on commercial supply chains. However, limited research focuses on the context of humanitarian supply chains. This calls to develop structural models that can scrutinize the technology adoption behaviour of the users in the humanitarian context. Therefore, this study is an attempt to empirically examine the technology adoption behaviour of humanitarian organizations. It extends the unified theory of the acceptance and use of technology (UTAUT) model by integrating personal innovativeness and trust in technology with the behavioural intention to adopt technology in the humanitarian context. Data from 192 humanitarian practitioners, who have experienced a large number of disasters, is utilized to empirically validate the conceptual model. The structural equation modelling results show that - out of four constructs namely performance expectancy, effort expectancy, social influence and facilitating conditions under UTAUT - performance expectancy and effort expectancy significantly affect the IT adoption. Contrary to expectations, trust and personal innovation do not affect the behavioural intention. Also, personal innovation does not moderate the relationship between performance expectancy and effort expectancy. This underlines the need to foster a learning culture within these organizations. The efforts made by involved humanitarian organizations may be directed towards improving the level of education, skills and facilitating them with other resources such as appropriate IT and data mining training, so that the technology adoption becomes an integral part of their daily activities. Finally, detailed implications for humanitarian organizations are discussed.

© 2017 Published by Elsevier Ltd.

1. Introduction

Over the last few years, humanitarian organizations have received significant attention due to an increase in the occurrence of manmade and natural disasters (Burkart et al., 2017; Sandwell, 2011). Consequently, humanitarian organizations are often involved in all phases of disaster management i.e. mitigation, prevention, response and reconstruction. Particularly during their response time, several humanitarian organizations work in coordination with other organizations such as the

* Corresponding author.
E-mail addresses: kabraiiitm@gmail.com, dr.gauravkabra@gmail.com (G. Kabra), ram77fdm@iitr.ac.in (A. Ramesh), Pervaiz.Akhtar@hull.ac.uk (P. Akhtar), manojdash@iiitm.ac.in (M.K. Dash).

http://dx.doi.org/10.1016/j.tele.2017.05.010
0736-5853/© 2017 Published by Elsevier Ltd.

Please cite this article in press as: Kabra, G., et al. Understanding behavioural intention to use information technology: Insights from humanitarian practitioners. Telemat. Informat. (2017), http://dx.doi.org/10.1016/j.tele.2017.05.010

military, the host government and local charity organizations. (Kovács and Spens, 2007). This forms the humanitarian supply chain (HSC) and involved organizations often work together to respond to large-scaled disasters effectively (Akhtar et al., 2012). They aim to reduce the suffering of affected people. In particular, India and other linked countries are highly susceptible to natural disasters and are one of the most disaster prone areas in the world due to the unique geo-climatic condition and locations.

The existing preparedness measures are less than satisfactory and particularly, in emerging economies like India, such preparedness requires high priority. Consequently, the utilization of information technology (IT) in humanitarian supply chain management (HSCM) is probably one of the most prominent steps available to offer a better response to the affected people (Delmonteil and Rancourt, 2017). Despite the fact that India is a well-known as an IT hub, the utilization of IT inherent within commercial supply chains (CSC) has not been observed in HSCM and is still a major concern.

The research focusing on the adoption of technologies has been widely studied in the context of CSC e.g. enterprise resource planning (ERP) software training in business schools (Chauhan and Jaiswal, 2016); virtual academic communities of practice (Nistor et al., 2014); multi-generational tablet adoption practices (Magsamen-Conrad et al., 2015); adoption of mHealth (Hoque and Sorwar, 2017), the Internet of Things, dynamic data and information processing capabilities for operational agility (Akhtar et al., 2017a). However, research on this topic in the context of HSC is limited despite the fact that practitioners are continuously searching to enhance the utilization of IT. Moreover, the nature of HSC is different from that of CSC. For example, emergency operations management systems work in an extremely stressful environment where end users have to work on dynamic information. The role end user has to play after the occurrence of disaster is entirely different from any regular day-to-day operations (Prasanna and Huggins, 2016). Dynamic data and information processing capabilities are also key factors that can significantly enhance the operational agility of humanitarian operations. However, this field itself is just emerging due to new technologies such as big data acquisition and its analytics linked with daily operations and evidence-based decision making (Akhtar et al., 2017a). Humanitarian organizations are far behind to build such capabilities. It is thus important to develop such capabilities for humanitarian organizations, so they can also reap the benefit of modern technologies. In this regard, relevant researchers, universities, government funding organizations and humanitarian facilitators may work together to address the relevant issues and extant research gap.

The increase in occurrence of disastrous events such as the December 2005 Tsunami, Hurricane Katrina and the 2015 Nepal earthquake explain the growing interest of researchers and practitioners' need to develop better solutions for disaster responses and management systems. The contemporary literature in the area of HSCM mainly focuses on improving the coordination and collaboration (Akhtar et al., 2012; Balcik et al., 2010; Comfort, 2007; Dolinskaya et al., 2011; Kabra et al., 2015; Tchouakeu et al., 2011), developing optimization models for inventory management (Ben-Tal et al., 2011; Caunhye et al., 2012; Döyen et al., 2012; Falasca and Zobel, 2012; Fiedrich et al., 2000) and analysing the issues of low utilization of IT (Chan et al., 2004; Corporation, 2011; Kabra and Ramesh, 2015; Maiers et al., 2005; Tchouakeu et al., 2011). This study enhances the third category of research, aiming to examine the perception of middle level managers for humanitarian organizations toward the adoption of IT.

The literature in the area of technology acceptance is extensively drawn from psychological factors (Davis et al., 1989; Venkatesh et al., 2003) and failure of information systems in gaining the trust of end users (May et al., 2014). This study focuses on personal innovativeness in the domain of technology and the trust in technology together with psychological factors that explain the intentions of middle level managers. Given the context of the current issue under investigation, it is necessary to emphasize that the advent of technology, especially information systems in the emergency management domain, has heralded a huge change in the management of disaster relief operations. The examples of innovativeness in such content include IMASH – an information system used during hurricane disaster (Iakovou and Douligeris, 2001); PeopleFinder (Murphy and Jennex, 2006); emergency response system supporting fire-fighters (Kankanamge and Prasanna, 2010), to name but a few.

The prevalence of IT in the area of HSCM has been widely acknowledged. However, the current stream of research focuses on the role and importance of IT in relief operations (Corporation, 2011; Jefferson, 2006a,b; Maiers et al., 2005) and identification of barriers to the utilization of IT from the organizational point of view (Kabra and Ramesh, 2015; Maiers et al., 2005). To the best of our knowledge, there is a scarcity of studies focusing on end users' beliefs and attitudes that influence the process of IT adoption in the context of humanitarian organizations. Therefore, this study is a unique attempt to investigate the perception of middle level managers for humanitarian organizations toward the adoption of IT. The outcomes of this study may also help policy makers and managers in developing more effective and efficient strategies to strengthen the user's intention toward the adoption of IT.

For the purpose of achieving successful utilization of IT in the workplace, a positive attitude of the individual (end user) is a prerequisite. However, the intention toward usage or adoption of IT varies among users (Dabholkar and Bagozzi, 2002; Kim and Kankanhalli, 2009). Hence, personal innovativeness (PI) i.e. willingness to use new information technologies, is an important factor for examining the acceptance of IT. Therefore, this study seeks to integrate personal innovativeness specific to the IT domain with existing technology acceptance models i.e. unified theory of acceptance and use of a technology (UTAUT) model, to investigate the perception of users toward the adoption of IT in the humanitarian context. In summary, this current study contributes to the HSCM literature in the following ways:

- Establishing the vital psychological factors that influence the intention of users toward the adoption of IT

Please cite this article in press as: Kabra, G., et al. Understanding behavioural intention to use information technology: Insights from humanitarian practitioners. Telemat. Informat. (2017), http://dx.doi.org/10.1016/j.tele.2017.05.010

Download English Version:

https://daneshyari.com/en/article/6890020

Download Persian Version:

https://daneshyari.com/article/6890020

Daneshyari.com