Research paper

# Tourist behaviour towards self-service hotel technology adoption: Trust and subjective norm as key antecedents

Arun Kumar Kaushik [a,*], Amit Kumar Agrawal [a], Zillur Rahman [b]

[a] Research Scholars, Department of Management Studies, Indian Institute of Technology, Roorkee, Haridwar, Uttarakhand, India
[b] Indian Institute of Technology, Roorkee, Haridwar, Uttarakhand, India

## ARTICLE INFO

## ABSTRACT

The hospitality industry is expanding with an ever evolving technology adoption process and novel possibilities of adoption of new technologies are constantly being explored. Over the years, several research perspectives have offered different adoption models for the implementation of such technologies. The current study extends the utility of technology acceptance model (TAM) through analysis of additional antecedent beliefs in order to predict tourists' attitude towards self-service technologies (SSTs) in the offline hospitality context. The paper further examines the impact of trust and subjective norm on consumers' (1) attitude and (2) behavioural intention towards adopting self-service hotel technologies (SSHTs). Results indicate that trust has a more significant impact on tourists' attitude, though both trust and subjective norm considerably affect tourists' behavioural intention towards adopting new technologies. Conclusion includes managerial and theoretical contributions of the study, its limitations and future research directions.

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## 1. Introduction

In earlier decades, majority of the innovations and related theories primarily focused on development of products rather than services (Khan & Khan, 2009); the major emphasis was on product development because of its economic impact. However, over the past few years, adoption theories have been successfully applied to the service contexts (Park & Kim, 2014; Chong, Ooi, Lin, & Bao, 2012). With an increase in the prominence of services, emphasis has shifted from product development towards service development. As a result, new technologies are being implemented in the service sector, and self-service technologies (SSTs) are increasing being applied in the service delivery processes. SST is one of the most frequent used and widely accepted technological interfaces (Rust & Espinoza, 2006). Being part of the service industry, hotels constantly invest in SSTs for improving their service quality and reducing overall cost (Kim & Qu, 2014; Lam, Cho, & Qu, 2007). With technological advancement in the service delivery processes, 'high-touch and low-tech' method has been replaced with 'high-tech and low-touch' method.

The proliferation of SSTs has led to an overall improvement in the traditional service delivery process. The majority of consumers of the service industry are now valuing new technology because of its convenience. Also, the control given by new technology provides more freedom to these customers. Increased technological adoption in the service industry (Kim, Christodoulidou, & Brewer, 2012) is the reason behind the introduction of a number of SSTs such as airport self-check-in kiosks, electronic tourist guides, tourism information kiosks, self-service systems in dining facilities, hotel self-check-in, and automated hotel check-out (Kincaid & Baloglu, 2005; Riebeck, Stark, Modsching, & Kawalek, 2008). The selection of any SST depends on several factors such as degree of complexity (Rogers, 1995), nature of the service to be delivered (Ong, 2010), size of the service firm, perception of staff members (Lam et al., 2007), and the type of service customers (Epstein, Pacini, Denes-Raj, & Heier, 1996).
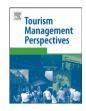
Several studies have investigated customer attitude towards adoption of SSTs (Curran & Meuter, 2005; Dabholkar, 2000). The attitude construct is measured through adoption of different innovation characteristics such as usefulness, ease of use, relative advantages, and complexity (Arts, Frambach, & Bijmolt, 2011) along with adopters' characteristics that include their age, income, education, involvement, opinion leadership etc. (Kaushik & Rahman, 2014). Majority of these studies have focused on innovation adoption in the online context (Kaushik & Rahman, 2015b,c). Thus, there is a lack of empirical studies that examine the impact of new variables on customers' adoption behaviour towards SSTs in an offline environment, creating a major gap in extant literature.

To address this gap, we propose an extended version of technology acceptance model (TAM) for examining tourists' adoption behaviour towards SSTs in the hospitality industry in the northern part of India. Our paper proposes a conceptual model by extending the TAM with two

* Corresponding author.
E-mail addresses: arunkaushik.iitr@gmail.com, arunkddm@iitr.ac.in (A.K. Kaushik), zrahman786@gmail.com (Z. Rahman).

additional external variables (need for interaction and perceived performance risk). Further, two more exogenous variables (trust and subjective norm) which have been observed to be crucial in an offline environment, are also examined. This extended model will guide policy makers and managers in formulating and implementing effective strategies for successful and speedy customer adoption of SSTs. The article is organized as follows: Primarily, an extensive review of extant literature is done to present research opportunities that need to be explored. Subsequently, hypotheses are proposed and a conceptual model is presented to provide a framework for measuring consumers' adoption of SSTs. Next, the methodology used in this paper is defined along with a description of the data collection process and data analysis. Results of the study are then discussed, and conclusions drawn. Finally, limitations of the study and future research directions are provided.

## 2. Theoretical background

### 2.1. Self-service technology

The growth of IT has completely transformed the way business is carried out today. Further, it has provided crucial opportunities for creating more engaging customer experiences (Kang & Gretzel, 2012; Rahman, 2004). Service industries such as the hospitality industry are witnessing new technological innovations and these industries are integrating modern practises with traditional service delivery processes. Service customers who have earlier had less than satisfactory experiences such as long waiting queues, operational delays, etc. now prefer to interact using latest technologies such as SSTs (Kasavana, 2008). Increased acceptance of newer SSTs has encouraged more hotels to implement SSTs for enhancing service quality standards, operational efficiencies, and most importantly, overall customer satisfaction (Cunningham, Young, & Gerlach, 2009). The evolution of ICT applications has led to the appearance of a variety of SSTs in the marketplace. According to Kasavana (2008), hospitality firms must implement user-friendly machines with clear and easy instructions for successful implementation of SSTs. A few basic types of SSTs are discussed below.

### 2.1.1. Self-service kiosks

Self-service kiosks (SSKs) are the most widely used applications in the offline hospitality context. However, a number of problems were faced by customers during the introduction of SSKs in the Hilton hotels. These problems ranged from non-functionality of SSKs to glitches in the delivery of various services, resulting in increased customer frustration. Role conflict between employees and customers also emanated because of increased technology interface (Griffy-Brown, Chun, & Machen, 2008).

The challenges and failures experienced during the use of various SSKs have been a source of valuable learning to the hotel industry. The failures of SSKs could be attributed to the unrealistic expectations of hotels, unnecessary utilization of a few SSKs, inappropriate positioning of kiosks, etc. It has been observed that the widespread popularity of airline self-service check-in kiosks made customers more familiar with, and led to the adoption of SSTs in other areas too (Ostrowski, 2010). Self check-in and check-out kiosks are the prominently used hotel services. For increasing the acceptance rate of SSTs, a few hotels like Hilton group provide kiosk facility that can print restaurant coupons on one side and airline boarding passes on the other while a customer checks out from the hotel (Ostrowski, 2010; Shaw, 2004).

### 2.1.2. Internet based self-services

The internet has emerged in the recent past as a dynamic medium for channelling transactions between customers and firms in the virtual marketplace (Rahman, 2003). In addition, it provides an extended range of self-service opportunities. For instance, customers now can interact directly with service firms for requisite information by asking questions on different issues and contacting employees online. Products can directly be sold to customers without any constraints. In hotels, internet is effectively used for fulfilling customers' needs (Jeong & Lambert, 2001). Law and Hsu (2006) investigated the usefulness of the different characteristics of hotel websites from users' perspectives and observed that website users were more interested in information on bookings, reservations, facilities, etc. Successful internet based self-services require easy accessibility of information on the websites (Kasavana, 2008).

### 2.1.3. Mobile-commerce

Mobile-commerce (also known as M-commerce) differs from e-commerce as it allows customers access to real time information by letting them avail information at their fingertips and providing them complete control over it (Kim, Park, and Morrison, 2008). A market research firm, In-Stat, forecasted an increase in smart phone usage from 161.4 million units in 2009 to 415.9 million units by 2014. Smart phones are the most preferred device related to voice, data, and video transferability, and storage capabilities (Nessler, 2010). The huge demand of mobile phones has additionally benefited the hotel industry in business promotions and operations. A majority of the hotels have started using the mobile network system for delivering services such as check-in and check-out facilities. Some hotels have introduced Apple iPad rental services for offering similar services to guests who do not have smart phones (Lombardi, 2010).

## 3. Conceptual model and hypotheses development

### 3.1. Technology acceptance model

The basic TAM (Davis, 1989) primarily examines the various attitudinal determinants that have evolved from the fundamental construct of Fishbein and Ajzen's Theory of Reasoned Action (Fishbein & Ajzen, 1975). This model consists of the basic determinants of behaviour and explains relationships among beliefs, attitude, subjective norms, intentions, and behaviour (Igbaria, Parasuraman, & Baroudi, 1996). The model even influences an individual's decision to adopt a new technology (Poku & Vlosky, 2004). It was observed that extant literature contains 10 different types of relationships among TAM constructs (reported in Tables 1 and 2). However, no study has incorporated all these relationships. Interestingly though, each one of the relationships has been examined in at least one study (see Table 2). A close examination indicates a majority of positive significant relationships in almost all cases. Therefore, we also hypothesize positive significant relationships among TAM constructs.

As shown in Table 2, perceived ease of use (PEOU) and perceived usefulness (PU) are the two central constructs of TAM, and have been extensively researched (Kim & Qu, 2014; Zhu, Lin, & Hsu, 2012) to determine their influence on customers' attitude (Yu, Ha, Choi, & Rho, 2005; Van der Heijden, 2003) and behavioural intention (Chang, Chen, Hsu, & Kuo, 2012; Lu, Liu, Yu, & Wang, 2008) towards new technological adoption. PEOU and PU of any new technology directly affect consumers' attitude towards adopting the technology, which in turn directly influences their intentions to use the technology.

In basic TAM, PU directly affects consumers' intention towards adoption (e.g., Shyu & Huang, 2011), while PEOU directly and indirectly (through PU) affects consumers' intention towards adoption (Van der Heijden, 2003, 2004). Furthermore, attitude towards adopting technology directly affects the behavioural intention of consumers (San-Martin, López-Catalán, & Ramón-Jerónimo, 2013). Similarly, behavioural intention significantly affects actual use of the technology (Venkatesh & Davis, 2000). There are a few exceptions though: Taylor and Todd (1995a) found a non-significant relationship between the attitude and intention constructs. Likewise, Dishaw and Strong (1999) reported a non-significant relationship between intention and actual use of IT. The favourable results obtained from the above mentioned studies highlight the key variables and their mutual relationships in an online environment. Although, owing to the inconsistencies in the findings of these studies, the argument that these variables will be sufficient to