The impact of IT-enabled customer service systems on service personalization, customer service perceptions, and hotel performance

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HIGHLIGHTS

- Service personalization critical in allowing a hotel to differentiate its service.
- Information system enhances the efficiency of the service personalization process.
- The signifiers improve preference solicitation in hotel personalization services.
- Service personalization enhances hotel guests' evaluation on service and value.
- IT-enabled service systems change the dynamic of guest relationship with the hotel.

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ABSTRACT

Customer service is a critical element of a hotel's strategy and an important lever for differentiation of the hotel's offer. Over the last two decades, information systems have contributed to the transformation of customer interactions, enabling an unprecedented scale and scope of service personalization in the tourism industry. This paper reports the results of a mixed method study in a hotel that offers three contributions to the development and refinement of IT-enabled service personalization theory. It explores the role of signifiers in the design of customer service systems, showing that they significantly increase customer preference elicitation during the learning phase of the service personalization process. It then demonstrates that improved preference elicitation translates into higher customer service evaluations and value perceptions of the hotel. Finally, our study shows that IT-enabled service personalization creates financial benefits for the hotel via revenue share-shift from costly intermediated to direct distribution channels.

1. Introduction

Information Systems (IS) have been transforming the service industry for over two decades (El Sawy and Bowles 1997; Karimi, Somers, & Gupta, 2001; Keen, 1991; Ostrom et al. 2010; Ray et al., 2005; Piccoli & Lui, 2014), and specially the hotel industry in the last 50 years (Law, Leung, Au, & Lee, 2013; Piccoli & Ott, 2014). The increasing embeddedness of Information Technology (IT) in business processes empowers organizations with the ability to provide high quality and personalized service at a reasonable cost (Buhalis & Law, 2008; Rust & Miu, 2006) so as to enhance the hotel's profitability (Melián-González and Bulchand-Gidumal, 2016).

In the service industry, IT-enabled Customer Service Systems (CSS) represent the collection of information systems that mediate and enable the performance of customer services with the objective of increasing overall customer value (Piccoli, Kathryn Brohman, Watson, & Parasuraman, 2004). The hotel industry is very competitive and customers are become increasingly sophisticated and discerning, demanding high level of quality and value (Niininen, Buhalis, & March, 2007). Personalization, the ability to tailor products, services, and the transactional environment to individual customers' needs, is a general process that occurs in many aspects of business (e.g., software customization) and social life (e.g., selecting the right gift for a sibling). A CSS empowers the firm to predict and identify customer needs (Chatzipanagiotou & Coritos, 2010; Shahin & Jamshidian, 2006) and to react to customers' requests promptly and effectively, thus allowing providers to personalize service delivery (Tan, Benbasat, & Cenfetelli, 2013).

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Given the strategic significance of service and personalization to the hospitality industry, and the widespread use of IT-enabled CSS, it is important to investigate the role of technology in service personalization (Ball, Coelho, & Vilares, 2006; Lui & Piccoli, 2016; Xu, Benbasat, & Cenfetelli, 2014). Many personalization studies have focused on customized information goods, such as recommendation systems (e.g., Parsons & Ralph, 2014; Ho & Bodoff, 2014; Lee, Jen-Hwa Hu, Cheng, & Hsieh, 2012; Zhang et al., 2011) or the information exchange environment and customized websites (e.g., Chan, 2014; Thongpapanl & Ashraf, 2011). However, there is surprisingly little empirical research to date that investigates the role of technology in service personalization (Xu et al. 2014). We contribute to filling the gap with a field study set in the context of the hospitality industry, in which services are complex and service personalization remains a strategic priority.

Our study focuses on the design of IT-enabled CSS in a hotel, its immediate impact on preference elicitation and its distal effect on customers and the hotel performance. Specifically, we leverage a unique dataset to make three contributions to theory and practice. We extend research on IT-enabled service personalization by exploring the role of signifiers in soliciting customer preferences in order to better understand customers' needs during the first stage of the personalization process. Second, we empirically demonstrate the value of IT-enabled service personalization, through its effect on customers' service and value perceptions of the hotel. Third we indicate its benefits because of its influence on the customer relationships with the hotel. This change in customer relationship produces benefits for the hotel via revenue share-shift — away from costly intermediated to inexpensive direct distribution channels.

2. Theoretical framework

2.1. Service personalization process

Service personalization is the process of using individuals' own information to tailor the service and the transactional environment to improve the benefits accruing to them (Shen and Dwayne Ball, 2012; Lee & Cranage, 2011). A process can generally be disaggregated into subprocesses — defined as the set of activities that accomplish a portion of an activity (Fahey, Srivastava, Sharon, & Smith, 2001). Aside from elementary activities (e.g., carrying a boarding pass to the gate), any process can be thought of as the subprocess of a larger one, or a superprocess of its phases. Service personalization includes two subprocesses: learning and matching (Murthi & Sarkar, 2003).

Any firm, not only hotels, needs a clear understanding of the customers' needs and preferences to provide personalized services (Gwinner, Jo Bitner, Brown, & Kumar, 2005). Learning is a data elicitation and gathering phase whereby an organization collects specific customer preferences through the interaction between the service provider and the service consumer (Glushko & Nomorosa, 2013). Learning occurs directly by asking individuals to explicitly express their likes and dislikes, indirectly by inferring preferences from actual behavior and previous interactions (Adomavicius & Tuzhilin, 2005), or through a combination of both means (Yu, Zhou, & Yang, 2004). Individuals generally hold well-differentiated values only for the most basic attitudes and frequently encountered experiences (Fischhoff, 1991). That is, customers' preferences are often ill-defined and are usually constructed on the spot in response to task demands (Bettman, Frances Luce, & Payne, 1998; Gretzel & Fesenmaier, 2005). Thus, in the service context, people generally do not have clear preferences unless they are facing familiar products or service options (Coupey, Irwin, & Payne, 1998). Rather, they formulate their attitudes and requests when they are asked to express them (Slovic, 1995). Direct

learning is therefore most appropriate when customers have experienced the product/service before (e.g. a frequent flyer) and have had a chance to formulate salient preferences (e.g., a preference for aisle seating on a plane), or when preferences are easily formulated upon request (e.g., favorite soda) (Simonson, 2005). Indirect learning is necessary when preference must be observed and cannot be easily formulated or communicated (e.g., the degree of pressure during physical therapy). In practice a combination of the two approaches is typically adopted, with the direct method used to obtain general preferences and the indirect approach contributing to refining them (Huang & Lin, 2005).

The second subprocess in service personalization consists of matching customer preferences to specific offerings, or in customizing the offering to accommodate the learned preferences (Adomavicius & Tuzhilin, 2005). In the case of service personalization, matching consists of modifying certain components of the service offering, including service delivery, service products and service environments, based on personal profiles. The results of the delivery of the personalized service are monitored by the CSS and constitute feedback for better personalization in future service encounters (Glushko & Nomorosa, 2013). Examples include personalized TV program recommendations (Yu et al. 2004) and personalized websites that are organized around individual customers' needs (Fung, 2008; Piccoli et al. 2004).

A service personalization process is not necessarily IT-enabled. For example, a customer in a hair salon can read through the hair style magazines to select an example for the stylist to follow. In the context of service personalization, IT can be deployed in the learning and/or matching subprocesses, enabling respectively preference elicitation and personalization fulfillment. In the above hair styling example, an IT-enabled service personalization process would be possible through an app on a tablet. Using this IT-enabled customer service system, hair salon patrons could take their own picture with the hair salon's tablet and virtually try on different hairstyles. The IT-enabled process would provide a better representation of the expected outcome and provide the stylist with a customized example to follow.

2.2. CSS design and service personalization affordance

Understanding the interplay of people and technology requires theories that simultaneously capture features of technology as well as characteristics of individuals and their intentionality (Majchrzak and Markus, 2013). One theoretical approach, the affordance perspective (Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007), considers both simultaneously. While information systems scholars have mostly applied it to the organizational context (Leonardi, 2011; Markus & Silver, 2008), ecological psychology first introduced the affordance perspective as a theory of individual perception. Specifically, an affordance represents "opportunities for action" as perceived by an organism in its environment (Gibson, 1977). The construct migrated to artifacts and technology design as a relational concept capturing the potential for action that emerges through the interaction of information technology and social agents (Norman, 1988). As a relational concept, an affordance is not a property of technology. Rather its existence is jointly determined "by the qualities of the object and the abilities of the agent that is interacting" with it (Norman, 2013, p. 11). Moreover, as a possibility for action, rather than the action itself, an affordance is conceptually separate from a given behavior and it is merely the necessary precondition for the behavior to occur. In other words, the same technology features will afford different behaviors to different people, or even to the same person at different times. In the specific context of information systems design, a functional affordance represents a "relationship between a technical object