Fix It or Leave It? Customer Recovery from Self-service Technology Failures

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Abstract

Self-service technologies (SSTs), such as airport check-in kiosks, can provide customers faster, better, and less expensive services. Yet sometimes customers experience service failures with these technologies. This study investigates the process by which customers recover from SST failures using their own effort (i.e., customer recovery) and explores their decisions to stay with or switch from the SST. Drawing from expectancy and attribution theories, we develop a process model centered on customer-recovery expectancy and test the model by tracking actual failure responses. The results show that internal attribution, perceived control over the SST, and SST interactivity all positively influence customer-recovery expectancy. In turn, expectancy affects customers’ recovery effort and recovery strategies, depending on the availability of competitive information. Furthermore, greater recovery effort increases the likelihood of staying with an SST, whereas more recovery strategies increase the likelihood of switching. The theoretical and managerial implications of these findings include ways to design SSTs to enhance recovery expectancy, a key mechanism of the recovery process, and thus to encourage customers to persist with the technologies.

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Millions of customers receive services through automated machine and computer interfaces known as self-service technologies (SSTs). These interactive interfaces, including Internet-based e-tailers, free-standing kiosks, and mobile service applications, empower customers to obtain services without direct employee assistance (Meuter et al. 2005; Zhu et al. 2007). Because of the speed, convenience, and cost savings they promise, purchases through SSTs have become sizeable. Annual sales through kiosks are projected to exceed $1.0 trillion by 2014 (IHL Group 2012), and SSTs are said to be one of the “10 ideas that are changing the world” (Time 2008).

Nevertheless, SSTs can and do fail at times because of technical or human error. For example, 25% of online shoppers experience problems with websites (Forbes 2008), and only 18% of the time does interactive voice technology, such as automated customer phone service, work effectively (The Economist 2004). Such failures can result in missed sales opportunities, customer dissatisfaction, and technology abandonment. For example, more than 2,000 kiosks installed by the U.S. Postal Service are not in use today because of malfunctions and design issues (Selfserviceworld.com 2010).

In light of the risks of malfunctioning SSTs, such as dissatisfaction and lost sales, it is important to understand how customers respond to failures (Bolton, Grewal, and Levy 2007; Puccinelli et al. 2009; Verhoef et al. 2009). Because service personnel typically are not available to address SST errors when they occur, firms must motivate customers to recover from service failures on their own (known as customer recovery) and to stay with the technologies (Holloway and Beatty 2003; Meuter et al. 2000). In other words, they must encourage customers to recover from the failure (fix the SST problem) and not switch from the interface (leave the problem). Therefore, this study...
aims to determine the process by which customers engage in recovery or switching behaviors in response to SST failures.

The services literature identifies three types of recovery from service failures: recovery by the firm, recovery by the customer, and joint recovery by the firm and the customer (Bendapudi and Leone 2003; Dong, Evans, and Zou 2008; Lusch, Vargo, and O’Brien 2007; Meuter and Bitner 1998; Roggeveen, Tsiros, and Grewal 2011). Most empirical studies have focused on recovery by the firm (e.g., Bitner 1990; Grewal, Roggeveen, and Tsiros 2008; McCollough, Berry, and Yadav 2000; Smith, Bolton, and Wagner 1999), though some have considered joint recovery (e.g., Dong, Evans, and Zou 2008). However, customer recovery—in which customers are the sole or principal actors in recovery—is relatively neglected. Gaining a better understanding of customer recovery is crucial, given the expanding role of SSTs in the service landscape.

To address this gap, we conduct an empirical study on customer recovery. We investigate a potential mechanism, called “customer-recovery expectancy” (CRE), that motivates customers to engage in the recovery process. CRE refers to the degree to which customers estimate that they will be effective in resolving the problem through their own actions and inputs. This internally focused evaluation differs from customers’ perceptions or evaluations of recovery actions taken by service firms or employees, which until now have been the primary focus of extant literature.

We attempt to answer four questions about CRE. Because CRE might propel customers to take actions on their own to address a service failure, our first research question is, what factors strengthen CRE? We consider three possible antecedents: internal attribution, perceived control over SSTs, and SST interactivity. Second, how does CRE motivate customers to fix a service failure? Here, we examine two fixing behaviors as possible consequences of CRE: customer-recovery effort and customer-recovery strategy. The former emphasizes working harder and longer to solve the problem; the latter involves searching for more appropriate solutions. Third, are these behaviors contingent on SST design features? We explore the possible moderating role of one design feature—namely, the availability of competitive information in the SST interface. Fourth, what are the effects of CRE and recovery responses on switching from the SST? We focus specifically on the likelihood that a customer will abandon the SST and demand employee assistance.

Our research thus makes several contributions to the services literature. First, we help fill a significant research gap by delineating the process of customer, rather than firm or joint, service recovery in the relevant context of SSTs. Second, we apply expectancy theory to introduce CRE as a mechanism for spurring customer-recovery actions. No previous study has used expectancy theory to explain service recovery. Third, this article offers a methodological advance in service failure research by analyzing responses to computer-simulated failures in a general population. We do so to increase the external validity and generalizability of our study. Table 1 highlights the knowledge gaps by presenting sample studies from the services literature.

### Theoretical background

#### Expectancy theory

This study relies on expectancy theory, which describes the process by which people are motivated to engage in coping behaviors to gain cognitive mastery and achieve anticipated results (Heider 1958; Kelley 1973). This motivation process includes expectancy, which is the belief or estimation (developed through observations and ascriptions of past events) of how inputs are likely to result in a certain level of performance (Teas 1981). Studies of social psychology, complaining behavior, and sales management indicate that a higher expectancy of positive outcomes promotes recovery behaviors, especially if the person is the central actor in the task (Oliver 1974; Singh and Wilkes 1996; Teas 1981). We extend the logic of expectancy theory to explain and predict customer reactions to an SST failure in which employee assistance is not available and customers are solely responsible for recovery. The core construct of our conceptual framework is customer-recovery expectancy (CRE), which refers to a customer’s estimation of the likelihood that an SST problem can be solved through his or her own actions and inputs. CRE differs from expectation of recovery, an extant concept in the services literature (Maxham and Netemeyer 2002; McCollough, Berry, and Yadav 2000). That concept is the customer’s estimation of the effectiveness of an employee’s actions to repair a service failure (Gronroos 1988; Kelley and Davis 1994). Furthermore, CRE differs from the concept of self-efficacy, which is an internal response capability that partially determines expectancy (Bandura 1986; Lent, Brown, and Hackett 1994).

#### Expectancy–behavior links

Prior studies of the expectancy–behavior link suggest that when people consider their personal efforts effective, they are motivated to persist with tasks (Sujan 1986). Conversely, when they consider those efforts ineffective, they cope less or give up (Singh 1990). There are three types of behavioral reactions to failure: modifying the effort level, altering the strategy, and seeking assistance (Dixon, Spiro, and Jamil 2001; Sujan 1986), though customers may engage in more than one type. Parallel to this classification, we examine three behavioral consequences of expectancy. The first, customer-recovery effort, refers to the amount of time and effort directed toward doing more of or repeating the same steps or process. It reflects how hard a person works to improve the situation (Sujan 1986). The second consequence, customer-recovery strategy, is the time spent learning about the service procedure and seeking alternative routes and actions to resolve the problem. Thus, the customer attempts to do things differently or smarter, which demands more diagnostic thinking and active learning than repetitive efforts. The third consequence is switching to employee assistance, or withdrawing from the SST interface to seek personal assistance (Dixon, Spiro, and Jamil 2001). This choice means opting out of the technology. All three consequences are behavioral variables that capture customers’ actual recovery actions. Unlike prior service recovery studies, these variables are not perceptions, nor are they evaluations of firm or employee...
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