

Learning and Relearning Effects with Innovative Service Designs: An Empirical Analysis of Top Golf Courses

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Abstract: Many service managers today are challenged to redesign their services periodically in order to keep their offerings fresh, competitive, and desirable to customers. Indeed, deliberate periodic refreshment of experience-based service offerings has been proposed to enhance repeat business (Voss et al. 2008, Zomerdijsk and Voss 2010). The periodic reinventing of a service leads to alternating periods of exploration for and implementation of new service designs, followed by improvement and exploitation of the new service design for a number of periods or indefinitely. If a redesigned service eventually becomes stale and starts to lose customer interest, managers once again may need to consider how to freshen up the service to make it contemporary. After each redesign, service personnel must learn to work within a modified service facility and operate a new service system in ways leading to high quality customer experiences. Prior research shows that service firms exhibit learning over time (Darr et al. 1995, Baum and Ingram 1998, Ingram and Baum 1998, Lapré and Tsikritsis 2006). However, the push for deliberate refreshing of services motivates a key follow-up question: *After a major service redesign, how do service organizations relearn to improve their performance again?*

Success with cycles of service design and redesign may depend upon the ability of employees to adapt to and learn within a new service facility, as well as their ability to adapt and improve new service systems. Activities related to exploitation of an existing service design are intended to ensure a service firm's present survival, while exploratory innovation activities are intended to ensure future survival (Jayanthi and Sinha 1998). Managers must find an appropriate balance between exploration and exploitation, so that a firm can benefit from both activities and not get stuck focusing too much on one or the other (Jayanthi and Sinha 1998). The most effective companies carefully manage both "spurts of adaptation and periods of routine operation" (Tyre and Orlikowski 1993, p. 18). Involving relevant parties in both exploration and exploitation activities may improve innovation outcomes (Jayanthi and Sinha 1998). Yet, many questions remain regarding when to engage personnel, which parties to involve, what they should do, and where their activities should occur (Tyre and Orlikowski 1994, Tyre and von Hippel 1998, Jayanthi and Sinha 1998).

Prior innovation research also has found that exploration and adaptation of service innovations may take place in discontinuous patterns (Tyre and Orlikowski 1993, 1994). The process of implementing innovations can be chaotic (Jayanthi and Sinha 1998). The exploitation of an innovation is often envisioned to involve a gradual process of continuous improvement over time, as with the classic learning effect. However, actual post-innovation adaptations have been observed to occur discontinuously, with a small number of bursts of improvement taking place during a short window of opportunity immediately after an innovation is implemented (Tyre and Orlikowski 1993, 1994). After this brief window of opportunity, routine operating practices tend to preclude further dramatic improvements.

We examine the impact of service design and redesign using two theoretical lenses: the *learning curve* and the *window of opportunity*. These literatures contain little empirical work related to managing new services or service redesigns (Zomerdijsk and Voss 2010). Most prior learning curve literature concentrates on manufacturing rather than service operations (Darr et al. 1995) and focuses largely on internal performance metrics rather than external customer metrics (Lapre and Tsikritsis 2006). As such, more research is needed on the impact of learning on customer metrics after service redesigns, both during adaptation and routine periods of operation. Thus, we examine these two learning phenomena within leading experience-based service firms to study the impact of organizational learning over time on the quality of their service offerings. We hypothesize that experience service firms will exhibit learning effects over their lifespan, and relearning characterized by windows of opportunity effects immediately after a redesign, followed by long-term relearning in subsequent periods.

To test our research hypotheses, we examine yearly data on top Texas golf courses between 1989 and 2009. A golf course can be thought of as an experience service which uses its destination as its business (Voss et al. 2008). Golf courses are co-routed services characterized by a moderate number of customer pathways through a course, through which "the customer and service provider jointly decide the service encounter activity sequence. ... management defines the dominant sequence of playing from hole No. 1 to No. 18 but the customer has many options within this pre-designed service system in how to play the course" (Collier and Meyer 1998, p. 1236). Given this discretion, golf course

customers can develop an intimate connection to a course, allowing them to identify changing conditions that affect the service experience over time. Major golf course redesigns directly affect a customer's experience, since a redesigned course can play rough for quite some time due to turf conditioning, dry or dead spots, drainage issues, and other problems that might arise. Consistent with Tyre (1991), golf course innovations may be undertaken to improve a course, but innovation implementation problems also risk harming the quality of the service experience.

Our empirical results demonstrate learning across the lifespan of a golf course as well as relearning after major golf course redesign projects. We observe a significant long-term learning pattern associated with the age of a golf course. We also observe that within the first few years after a major golf course redesign, significant beneficial shifts take place that are consistent with the hypothesized windows of opportunity effect. However, after redesigns, we also observe effects that suggest that the long-term learning effect is negated by a major golf course redesign. The findings contribute to the sparse empirical literature on learning effects in service firms by providing empirical evidence of different learning patterns between the initial service design and subsequent redesigns. The study contributes to managerial insight by demonstrating the existence of learning and illustrating how service redesigns can negatively affect service outcomes. The study also contributes by demonstrating that window of opportunity effects can be at play in service operations, as when changes take place due to a golf course redesign.

Keywords: service operations, service development, innovation, learning curve, window of opportunity

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