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## MANAGEMENT OF SERVICE INNOVATION QUALITY

Mu, Y.

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## Chapter 6 Discussion

The studies in this dissertation aim to provide answers to the main question: How do organizations effectively manage service innovations with quality outcomes, in various service categories? To address the research question, this dissertation elaborates on three relevant topics regarding service innovation management, service innovation quality and service innovation categorization. The components of service innovation management (specifically at online travel agencies) are indicated in Chapter 2. The antecedents of service innovation quality (specifically in healthcare) are substantiated in Chapter 3 and Chapter 4. The development of a new service innovation categorization is presented (and specifically tested in tourism) in Chapter 5. This present chapter discusses the main findings of Chapters 2–5, and then illuminates the theoretical and practical implications as well as limitations and future research directions.

## 6.1 Main research findings

With regard to the four sub research questions (SRQs) respectively addressed in four chapters, the main research findings are presented in detail and then summarized in Table 6.1.

### **SRQ1: What are the components of service innovation management for online travel agencies?**

Chapter 2 formulates a tripartite framework with components for online travel agencies (OTAs) to manage their service innovations. Based on an in-depth case study of Ctrip (the largest OTA in China), an existing new service development (NSD) model of Johnson et al. (2000) is refined. Compared with other service innovation models and frameworks (den Hertog, 2000; den Hertog et al., 2010; Ordanini and Parasuraman, 2011; Lusch and Nambisan, 2015), the proposed framework takes the process of service innovation into consideration, i.e., a general ideation process rather than an NSD process. This framework integrates the key success factors of service innovation summarized by a recent meta-analysis of Storey et al. (2016). These factors are classified into three facets (i.e., resources, contexts and ideation) as well as further specific element subgroups. Notably, service innovativeness is one of the success factors, and the process of ideation is divided into idea generation and application in the framework.

Compared with the original NSD framework of Johnson et al. (2000), the proposed tripartite framework contains several changes. First, two original enablers (i.e., people and team) in the NSD framework are combined into ‘stakeholders’, along with ‘technologies’ and ‘systems’ to be three elements in the facet ‘resources’ (Hollenstein, 2003; Smith and Fischbacher, 2005; Dotzel et al., 2013). Second, another original enabler (i.e., tools) is replaced by and included in a new element ‘systems’. Third, the last original enabler (i.e., organizational context) is replaced by and extended into three elements: ‘innovation strategy’, ‘innovation structure’ and ‘innovation culture’ (Storey et al., 2016). Fourth, the original NSD process is replaced by the facet ‘ideation’ process of service innovation, as NSD has been regarded as one aspect of service innovation (Snyder et al., 2016; Witell et al., 2016).

### **SRQ2: What are the antecedents of service innovation quality in healthcare from the perspective of value creation?**

Chapter 3 conceptualizes service innovativeness and organizational renewal as two determinants of service innovation quality, taking the perspective of value creation. Service-dominant logic (cf. Vargo and Lusch, 2016) and the dynamic capabilities approach (cf. Teece, 2007) are integrated to serve as the theoretical foundations of the two pathways. Based on data from 168 service innovation projects, an empirical study in the Dutch

healthcare verifies that both service innovativeness and organizational renewal positively affect service innovation quality, and also finds that the effect of service innovativeness is stronger than that of organizational renewal.

The revealed relationship of innovativeness and quality in healthcare service is in line with the link between innovativeness and product advantage in manufacturing sectors (Montoya-Weiss and Calantone, 1994; Gatignon and Xuereb, 1997; Calantone et al., 2006). Likewise, healthcare organizations achieve service innovativeness to increase user value and fulfil their unmet needs, by providing users with totally new ways of user care, and with more satisfying experiences or problem solutions (Ali et al., 1995; Berry, 1995; de Brentani, 2001). Besides, the role of service innovativeness as a driving force of service innovation performance is verified in the following contexts: (1) in healthcare in Chapter 3 and (2) in tourism, specifically online travel services, in Chapter 2.

The revealed relationship of organizational renewal and innovation quality in healthcare service has no contradiction with the empirical findings in the literature, such as the relationships between organizations' internal changes and new products' commercial success, as well as between organizational synergy and implementation quality (Song and Parry, 1997; Danneels and Kleinschmidt, 2001; Kock et al., 2011). Through renewing internal capabilities and resources, organizations including those in healthcare enhance operational capabilities and resource integration (Calantone et al., 2006).

**SRQ3: How does the influence of employee involvement in ideation on healthcare service innovation quality differ (1) between various employee groups and (2) under varying levels of service innovativeness?**

Chapter 4 models the impacts of employee involvement on service innovation quality, under the condition of service innovativeness as a moderator. Two ends of an organization's human resource (i.e., frontline employees and top managers) are focused on their roles in different processes of ideation (i.e., idea generation and application). Chapter 4 puts forward four related hypotheses. Based on the same empirical data as that of Chapter 3, the following three hypotheses are verified.

First, frontline employee involvement in the generation of innovative ideas positively affects service innovation quality specifically in healthcare. This revealed relationship is in line with the relationship between frontline employee involvement and service marketability in prior studies (Melton and Hartline, 2010, 2013). Frontline employees improve service innovation quality through (1) being involved in generating and screening ideas to identify user needs (Engen and Magnusson, 2015), (2) establishing goals and priorities to emphasize user needs (Ordanini and Parasuraman, 2011), and (3) being participants in the innovation project team and other strategic activities to realize user needs (de Brentani and Ragot, 1996).

Second, top management involvement in the application of innovative ideas positively affects service innovation quality specifically in healthcare. This result is consistent with findings from previous research in the new product development (NPD) context (Swink, 2000; Unger et al., 2012). Top managers improve service innovation quality through (1) reviewing the innovation project (de Brentani and Kleinschmidt, 2004), (2) being visionaries or champions (Swink, 2000; Kleinschmidt et al., 2007), (3) enhancing reputation of the organization and project (de Brentani and Ragot, 1996), (4) encouraging the adoption of key strategic users (de Brentani, 2001), and (5) being active in the day-to-day activities (de Brentani and Kleinschmidt, 2004).

Three, a positive effect of frontline employee involvement in the generation of innovative ideas on healthcare service innovation quality is stronger at high levels of service innovativeness. This result in healthcare is similar to the conclusion of Olson et al. (1995) in NPD context of tangible goods. When frontline employees' innovative ideas are considered in radical innovation projects, they are likely to show a higher degree of motivation, willingness and persistence to realize the ideas. Besides, the role of service innovativeness in the idea generation process is verified in the following contexts: (1) in healthcare in Chapter 4 and (2) in tourism, specifically online travel services, in Chapter 2.

No evidence supports the hypothesized moderating effect of service innovativeness on the relationship between top management involvement in idea application and healthcare service innovation quality. Similarly, Swink (2000) finds that technological innovativeness has no moderating effect on the relationship of top management involvement and design quality in NPD. The high uncertainty and risk, as well as the heavy quality pressures, challenge innovating healthcare organizations' decision making in striving for radical service innovations. These challenges may partly overshadow the effect of top manager support for new yet perceived-risky ideas in highly innovative projects, and thus induce some interference with their assessments and decisions in the innovation processes (Swink, 2000).

**SRQ4: How can service innovations be classified into categories that address the degree and type of change?**

Chapter 5 offers a categorization for labeling diverse service innovations based on a four-dimensional model of innovativeness (Salomo et al., 2007; Kock et al., 2011; Schultz et al., 2013b). A multiple-case study approach is conducted with 11 service innovation cases situated at Walt Disney World (Disney), Singapore Airlines (SIA) and China Eastern Airlines (CEA). Adopting a classification scheme of multiple-item composition-based conceptualization, Chapter 5 classifies the 11 cases into four service innovation categories, according to distinctive presence/absence compositions of a set of items as well as the innovativeness dimensions. Four proposed categories include environment-, technology-,

market- and organization-dominant service innovations, with their level of change successively from higher to lower. The dominating highest-level aspect simultaneously indicates the holistic degree of change and the primary type of change in a specific service innovation category.

The majority of existing categorizations in different approaches features one of the two facets (cf. Snyder et al., 2016): degree of change (e.g., Gallouj and Weinstein, 1997; de Vries, 2006) or type of change (e.g., Hjalager, 1997; Sirilli and Evangelista, 1998; Hsieh et al., 2013). The proposed four-dimensional categorization simultaneously considers both facets, to specify (1) to what extent the changes have an impact, and (2) which aspect makes the primary changes.

Four frequently-used classification methods in the literature (single- and multiple-item conceptualizations, matrix categorizations and cluster analyses) contain some weaknesses. The classification scheme presented in Chapter 5 conceptualizes a set of items of change which is applicable for varying innovation categories as a whole, to portray the multifaceted innovativeness characteristics. Next, the scheme separates categories based on the compositions of item, and thus attaches conceptual meanings to each category.

**Table 6.1 Overview of main findings in Chapters 2–5**

| Sub research question (SRQ)  | Main findings  |
|--|--|
| SRQ1: What are the components of service innovation (SI) management for online travel agencies (OTAs)? (Chapter 2) | <ul style="list-style-type: none"> <li>- The components of SI management at OTAs contain three facets (i.e., resources, contexts and ideation), associated elements and <i>success factors (italicized in parentheses)</i>.</li> <li>- Elements of resources: stakeholders (<i>frontline employee involvement, external relation and customer integration/input</i>), technologies (<i>technological sophistication</i>) and systems (<i>proficient operations and delivery systems</i>)</li> <li>- Elements of contexts: innovation strategy (<i>per se</i>), innovation structure (<i>organizational design</i>) and innovation culture (<i>per se</i>)</li> <li>- Elements of ideation (<i>absorptive capacity, internal communications and knowledge integration mechanisms</i>): idea generation (<i>service innovativeness</i>) and idea application (<i>formal/structured development process, efficiency of the development process and launch proficiency</i>)</li> </ul> |

**Table 6.1 (continued)**

| Sub research question (SRQ)  | Main findings   |
|--|---|
| <p>SRQ2: What are the antecedents of healthcare service innovation quality (SIQ) from the perspective of value creation? (Chapter 3)</p>   | <ul style="list-style-type: none"> <li>- Service innovativeness positively affects healthcare SIQ.</li> <li>- Organizational renewal positively affects healthcare SIQ.</li> <li>- The effect of service innovativeness on healthcare SIQ is relatively stronger than that of organizational renewal.</li> </ul>  |
| <p>SRQ3: How does the influence of employee involvement in ideation on healthcare SIQ differ (1) between various employee groups and (2) under varying levels of service innovativeness? (Chapter 4)</p> | <ul style="list-style-type: none"> <li>- Frontline employee involvement in idea generation positively affects healthcare SIQ.</li> <li>- Top management involvement in idea application positively affects healthcare SIQ.</li> <li>- The effect of frontline employee involvement in idea generation on healthcare SIQ is stronger under the condition of higher service innovativeness.</li> <li>- Service innovativeness is not a moderator in the relationship between top management involvement in idea application and healthcare SIQ.</li> </ul>  |
| <p>SRQ4: How can SIs be classified into categories that address the degree and type of change? (Chapter 5)</p>   | <ul style="list-style-type: none"> <li>- SIs can be classified into four categories based on a four-dimensional model of service innovativeness as follows.</li> <li>- Environment-dominant SI significantly influences industry norms, regulations and infrastructure, and/or general social values and norms.</li> <li>- Technology-dominant SI embeds new technological principles/components and/or technology-induced performance enhancement, but is not accompanied by environmental newness.</li> <li>- Market-dominant SI increases customer value, creates a new market, and/or changes the way a market functions, but does not incorporate any technological or environmental impacts.</li> <li>- Organization-dominant SI makes changes in organizational culture, structure, service delivery system and/or R&amp;D practices, rather than in any market, technological or environmental facets.</li> </ul> |

## 6.2 Theoretical implications

With regard to the four SRQs, this dissertation contributes to the theory of service innovation in the following aspects.

Chapter 2 offers the first step towards the investigation of service innovation management at Chinese OTAs. Online travel service is one segment where academic research on its innovation management and processes is limited, compared with other segments of the tourism industry (Nieves and Segarra-Cipres, 2015; Henderson et al., 2018). Chapter 2 presents an analytical model to understand and interpret this phenomenon, which can be used as a point of departure for studies on online travel service innovation. This framework is potentially applicable to other industries. The tripartite framework illuminates the detailed components (including facets, elements and success factors) of OTAs' service innovation management in emerging economies (specifically in China). Based on western innovation theories, Chapter 2 offers new insights and understanding, which are concluded from the practices in an eastern region (China).

Extant literature on value creation in service innovation mainly focuses on the economics-oriented service sector, e.g., business-to-business services and knowledge-intensive business service (O'Cass and Sok, 2013; Chen et al., 2015b). Chapter 3 integrates the service-dominant logic (cf. Vargo and Lusch, 2016) and the dynamic capabilities approach (cf. Teece, 2007), reflecting the call for a combination of the two approaches (Wilden et al., 2017). A linkage between input and output of value creation in the healthcare service innovation process is identified, by taking user-induced service innovativeness and organization-based internal renewal as inputs, and service innovation quality as an output. Additionally, the two pathways in this linkage are empirically validated. This is the first study that simultaneously examines the impacts of the two fields (service innovativeness and organizational renewal).

The findings in Chapter 4 contribute to several literature streams, particularly in healthcare services. First, although frontline employee- and top management- involvement in ideation have emerged as drivers of service innovation performance in previous studies (Rangus and Slavec, 2017), this study is among the first to specifically integrate the both parts of employee involvement into one model, and simultaneously investigate their influences on service innovation quality, under varying levels of service innovativeness. Second, as discussions about the relationship of employee involvement in ideation and innovation quality originated from and have been examined in manufacturing contexts, Chapter 4 shifts this focus from the field of NPD to service innovation. Third, the results deepen the understanding of whether service innovativeness is a moderator in the two direct relationships, through revealing that its roles in these two relationships in the context of service innovation are consistent with findings from previous research in NPD settings.

Chapter 5 sheds new light on the concept of service innovation categorization twofold. In the light of the comprehensive, yet parsimonious nature of service innovativeness, the four-dimensional categorization developed in this chapter provides an alternative

perspective that simultaneously investigates the degree and type of change. Furthermore, the associated conceptually-anchored classification scheme of operating the proposed categorization, based on the multiple-item composition-based conceptualization, may display more validity and reliability in capturing the multifaceted characteristics of changes in service innovations.

### **6.3 Managerial implications**

With regard to the four SRQs, this dissertation derives some managerial implications for service innovation practice as follows.

For practitioners in the online travel services and perhaps other industries, Chapter 2 implies that managing service innovation is a complex endeavor and multifaceted challenge. The proposed framework in Chapter 2 offers a structured and systematic approach to manage service innovations in this context. But it is difficult and undesirable to replicate a firm-specific mix/composition of the components of service innovation management. Simply copying and implementing a service innovation model from other organizations without adaptation seems not enough to become a sustainable and successful service innovator in sort-like settings. Besides, the success factors related to each facet and element provide managers insights into which aspects to focus on in their efforts for successful service innovation. These organization-level success factors of service innovation (e.g., technological sophistication) seem not critical for every single service innovation project. But, for the long-term development of a series of successful service innovations, it is important to pay attention to each success factor.

Chapter 3 develops insights into how service organizations (particularly those in healthcare) can use service innovativeness to develop new value propositions and quality innovation outcomes. Service organizations can try to figure out user-induced opportunities and risks, as well as users' problems, in order to offer totally new or improved services. Service organizations could also pay attention to the value of organizational renewal. To fit with the new requirements and outcomes of service innovation projects, renewals in the organizational structure, practices and service delivery system can significantly contribute to the service innovation quality. Moreover, a focus on service innovativeness, compared with organizational renewal, appears to have a stronger positive effect on service innovation quality.

Chapter 4 suggests that service organizations (particularly those in healthcare) should align their human resources with the degree of innovativeness in specific service innovation projects for high quality results. Service organizations should involve frontline employees in strategic innovation activities of idea generation, and acknowledge their innovative ideas, knowledge and contributions. When developing a radical service innovation project, service organizations could give more attention to valuing and deeply involving frontline

experts. Top managers of service organizations are encouraged to act as reviewers, visionaries and champions of applying innovative ideas in service innovations. Service organizations could benefit from involving top managers in any (incremental or radical) service innovation with a reasonable coordination.

The detailed classification scheme in Chapter 5 enables a more systematic selection and an effective approach of potential service innovation projects for organizations. Instead of rushing into a service innovation in an ad hoc manner, practitioners are prompted to firstly and thoroughly assess its innovativeness. By deliberately examining the four innovativeness dimensions as well as the organization's capabilities and resources, practitioners can identify and then select the most suitable service innovation categories to adopt. Additionally, this classification scheme could be also implemented to evaluate the service innovation categories when the projects are completed. According to the comprehensive assessment of their service innovation portfolios, organizations could make improvements to adjust the composition of their innovation categories.

## **6.4 Limitations and avenues for further research**

### **6.4.1 Regarding research contents and models**

Some limitations exist in the contents, models or frameworks in the four main chapters, which also indicate opportunities for further research. The following extensions could be fruitful research directions.

As the more western-centric nature of the service innovation models form the basis of the empirical study in Chapter 2, some unique Chinese-specific components of service innovation management might be inevitably overlooked. Cautious further research can be conducted to study China's indigenous innovations in a more Chinese-centric approach. The interactions between elements of service innovation management, as well as the associated integration mechanisms, are omitted by the proposed framework. This understanding is related to how OTAs or organizations in other service industries integrate these elements into an entire management mechanism. Further research could explore such interactions and integration mechanisms in depth, to provide useful insights by unraveling how OTAs or organizations in other service industries learn and adapt their management mechanisms over time.

The research models in Chapter 3 and Chapter 4 could be extended to account for the unexplained variance in the current models. Additions and supplements may glean other crucial insights. The model of Chapter 3 solely covers two direct effects on service innovation quality. More complex relationships could be modelled into simple ones, by adding in mediators and/or moderators. Future analyses could include other facets of stakeholder involvement in the model of Chapter 4, such as the involvement of a

cross-functional project team or of users. Besides, the roles of related coordination mechanisms in the model of Chapter 4 could also be explored.

Chapter 5 suggests four distinct categories of service innovation for the purpose of identification. Yet the categorization does not provide the detailed managerial issues such as different innovation patterns associated with these categories. Furthermore, an underlying assumption forms the foundation of this proposed categorization: four dimensions of innovativeness differ in levels of change which follow a successive order. Although literature has claimed this existence of varying degrees of innovativeness dimensions, specifically the highest level of environmental newness (e.g., Schultz et al. 2013b), this study does not test and verify the precise level order of four dimensions. Future research could further study these above aspects.

#### **6.4.2 Regarding research settings and samples**

Generally, a limitation of this dissertation with regard to research settings and samples is the cross-sectional approach (i.e., tourism and healthcare). The studies in this dissertation do not provide insights on how organizations effectively manage service innovations with quality outcomes, in various service categories over long periods of time. Future research can overcome this by conducting a longitudinal study. Besides, four studies have their specific limitations, some of which are common to studies in Chapters 2–4.

Chapter 2 conducts an in-depth case study on Ctrip, the largest OTA in China. The analyses of Chapter 3 and Chapter 4 are based on a questionnaire survey in Dutch healthcare. The settings and samples in Chapters 2–4 are restricted to one single service sector (i.e., online travel services and healthcare services) and one cultural background (i.e., Chinese and Dutch culture). The specific context may limit the generalizability of these findings in other (service) sectors and/or cultural background. A cross-sectional and/or a cross-cultural study could be considered to test the findings of these studies, in other sectors, with varying cultural backgrounds. Furthermore, sample sizes in Chapters 2–4 are relatively small (i.e., one single case and 168 healthcare service innovation projects). The limitation from small samples inevitably exists, even though (1) the single case in Chapter 2 (i.e., Ctrip) is representative and relevant; and (2) the results of data analysis in Chapter 3 and Chapter 4 reveal no significant nonresponse bias in the questionnaire survey. Larger and complementary samples could be used to further test and compare these findings.

Chapter 5 adopts a multiple-case study approach with cases situated at Disney, SIA and CEA. Despite carrying analytical validity for comparable cases, the qualitative approach applied in this study does not generate statistical generalizability of the findings. A next step could be to apply a large-scale quantitative study in a wider service context.

## **6.5 Conclusion**

This dissertation focuses on topics of management, quality and categorization in the domain of service innovation. Four studies are designed to specifically explore the components of service innovation management (specifically for online travel agencies), the antecedents of service innovation quality (specifically in healthcare) and service innovation categorization as well as its classification scheme. Different roles of service innovativeness link the four studies. The findings in this dissertation offer opportunities for further research on the related topics in service innovation as well as practical implications.