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Chapter 1 Introduction

The relevance of service innovation has been widely acknowledged by both scholars and practitioners. Yet additional research of service innovation remains a priority and is still needed. The central question guiding this dissertation is: How do organizations effectively manage service innovations with quality outcomes, in various service categories? To address this question, studies are conducted with regard to the related topics: service innovation management, quality, and categorization. The structure of this dissertation is as follows: Chapter 1 gives an introduction of the research background, topics, contributions and approaches; Chapters 2–5 separately state four specific studies; Chapter 6 discusses the main findings of the four studies and summarizes this dissertation. In this first chapter, an overview is provided of (1) the research aims of this dissertation, (2) the research topics and related gaps identified in the literature review, (3) the contributions the studies offer to theory and practice, and (4) the outline and research approaches associated with these studies.

1.1 Research background

Service innovation has evolved from a burgeoning concept into a widely recognized phenomenon in both research and practice, as an engine of the service sector's economic growth and service organizations' sustainable competitive advantage (Snyder et al., 2016; Witell et al., 2017), and as one of the research priorities in the domain of service science (Ostrom et al., 2015; Wilden et al., 2017).

In the literature extant studies on service innovation are considered to span three approaches: assimilation, demarcation and synthesis (Coombs and Miles, 2000; Drejer, 2004; de Vries, 2006; Ordanini and Parasuraman, 2011; Anning-Dorson, 2018). One of the differences between the three streams is their view on the relationship of service and manufacturing innovation. The assimilation approach regards service innovation similar to manufacturing innovation (Barras, 1986, 1990; Atuahene-Gima, 1996a; Miozzo and Soete, 2001). The demarcation approach argues that service innovation has specific characteristics distinct from those of manufacturing innovation (e.g., den Hertog, 2000; Avlonitis et al., 2001; Alam, 2006; Oke, 2007). The synthesis approach combines service and manufacturing innovation as a whole, and avoids to align a boundary between them (Drejer, 2004; Paswan et al., 2009; Ordanini and Parasuraman, 2011; Chang et al., 2012).

Service innovation practices constantly happen in organizations of various service sectors, including retail (e.g., IKEA and Wal-Mart), tourism (e.g., Singapore Airlines and Ctrip) and healthcare (e.g., English National Health Service and Saltro). The flourishing practices enrich the insights into this phenomenon in theory. For instance, service innovation and new service development (NSD) used to be adopted as two interchangeable concepts in the literature (Menor et al., 2002). Recently, as numerous innovations (particularly the incremental ones) in service organizations do not go through a formalized development process, NSD is regarded as just an aspect of service innovation (Snyder et al., 2016).

Although academic research of service innovation has developed for over three decades, there remains a need for a better understanding of some vital service innovation issues (e.g., systematic management, quality outcomes and basic classification).

Service innovation used to be generally treated as an unsystematic search-and-learn process, but there is an increasing tendency for systematic and structural management of service innovation in service organizations (Sundbo, 1997; Thomke, 2003). As the intersection of service innovation and quality management, how organizations effectively manage service innovations with quality outcomes has been paid scant attention to, compared with other performance facets such as the market perspective (Froehle et al., 2000; Atuahene-Gima, 2003). Service innovation incorporates a wide range of categories and related management practices may vary between different categories (Avlonitis et al.,

2001; Snyder et al., 2016).

Along with the ongoing and changing service innovation practices, this dissertation answers the call from service research for extensive knowledge to stimulate more effective approaches of managing service innovations in organizations (Ostrom et al., 2015).

The main research question of this dissertation is formulated as follows.

RQ: How do organizations effectively manage service innovations with quality outcomes, in various service categories?

This question is split into three research topics: service innovation management ('effectively manage service innovations'), service innovation quality ('quality outcomes') and service innovation categorization ('service categories'). Despite extensive interests in the topics individually, limited insight exists on the interface of these areas. In particular, it remains unclear how organizations are able to manage various service innovations and pursue high-quality innovation outcomes simultaneously. This dissertation aims to contribute to service innovation research and practices through investigating the three specific topics.

1.2 Main research concepts and topics

In this section two core concepts used in this entire dissertation are firstly presented. Gaps in the literature related to the three research topics are discussed separately in three follow-up sub sections.

1.2.1 Core concepts: service innovation and innovativeness

Throughout this dissertation, *service innovation* is defined as any change that affects one or more terms of one or more service characteristics (Gallouj and Weinstein, 1997). From this characteristics perspective (Gallouj and Windrum, 2009), service innovation is related to changes in the dimensionality and/or improvements in the performance of the elements in the vector of final service characteristics (Gallouj and Weinstein, 1997; Windrum and García-Goñi, 2008). A wide range of service innovations discussed in the dissertation involves various categories such as new-to-the-market services, new service lines, new delivery processes, service revisions and service repositionings.

In a general term, *service innovativeness* refers to the newness of a service innovation (Garcia and Calantone, 2002; Schultz et al., 2013b). Adapted from the concept of product innovativeness, service innovativeness emphasizes the novelty degree of a service innovation (Ali et al., 1995; Talke et al., 2009).

Evidence on the link between product innovativeness and innovation performance is mixed (Szymanski et al., 2007). Literature reports a positive (Song and Montoya-Weiss, 1998; Gatignon et al., 2002), moderate positive (Danneels and Kleinschmidt, 2001), inverted

U-shaped (Maidique and Zirger, 1984; Avlonitis et al., 2001; Schultz et al., 2013b) or U-shaped relationship (Kleinschmidt and Cooper, 1991). The inconsistent results may be partly due to the multifaceted nature of product innovativeness and various measures of innovation performance. The facets of product innovativeness may have different relationships with innovation performance. Therefore, the inclusion of different facets (i.e., the different composition of facets) may be one reason for the mixed results.

Among the research of ‘product innovativeness’, some empirical studies are conducted both in manufacturing and service sectors (e.g., Atuahene-Gima, 1996a; Gatignon et al., 2002). These findings in service sectors are actually connected to ‘service innovativeness’. Moreover, in some fields, the concept of innovativeness (such as organizational innovativeness) concerns an organization’s innovation capability at the organizational level (e.g., Dotzel et al., 2013; Sven et al., 2018). Therefore, in the area of service innovation, a clear conceptualization of service innovativeness is needed and relevant for yielding reliable findings.

Chapters 2–4 limit service innovativeness to the uniqueness or novelty of a service innovation to the market or user groups (Ali et al., 1995; Calantone et al., 2006). This narrow conceptualization takes the aspect of market newness into account, which is one of the four dimensions of the broadly conceptualized service innovativeness in Chapter 5. Either conceptualized narrowly or broadly, in this dissertation service innovativeness describes the innovativeness characteristics of a service innovation at the project level, rather than the innovation capability of a service organization.

1.2.2 Core topic: service innovation management

Given service innovation being a determinant of organizational performance, management mechanism for pursuing service innovations is vital for service organizations. Systematic and structural management of service innovations becomes an increasing tendency in service organizations (Sundbo, 1997; Thomke, 2003). Early managerial practices of service innovation rarely incorporated service R&D activities (Atuahene-Gima, 1996a; Brouwer and Kleinknecht, 1997; Hollenstein, 2003; Toivonen and Tuominen, 2009). Service organizations used to have no so-called R&D or innovation department to work on professional service development activities (Sundbo, 1997; Toivonen and Tuominen, 2009). Even though some service organizations had this sort of department, its primary responsibility was limited to idea generation and collection rather than NSD (Sundbo, 1997). Accordingly, early literature argued that service R&D was not an effective approach of service innovation (Brouwer and Kleinknecht, 1997).

In recent years, however, an increasing number of service organizations have established their specialized units for service innovation management, such as Walt Disney World and Virgin Atlantic (Zomerdijk and Voss, 2011). These organizational units execute innovation

activities to research and develop new services including their technological elements. Creative ideas are generated in service organizations' daily activities. Appropriate stimulation, recognition, promotion and evaluation mechanisms are installed for building an innovation atmosphere in service organizations, to transform employees' creative ideas into service innovations (Sven et al., 2018).

However, despite such phenomena and practices, our knowledge of service innovation management remains weak about its components, for example, of both project-level service innovation process and organization-level contextual factors, particularly in some service contexts such as tourism and healthcare (Hjalager, 2010; Wilden et al., 2017; Henderson et al., 2018).

1.2.3 Core topic: service innovation quality

As the intersection of service innovation and quality management, service innovation quality has been paid scant attention to, in both theory and practice. In the literature, service innovation performance is conceptualized as a multidimensional construct that reflects both operational and marketplace facets (Menor et al., 2002; Carbonell et al., 2009). The majority of service innovation research has focused on the performance from a market perspective, and comparably fewer studies empirically address the operational/process performance (e.g., Froehle et al., 2000; Atuahene-Gima, 2003). To explore the wider performance benefits of service innovation, this dissertation investigates the operational performance in terms of service innovation quality.

Adapted from Carbonell et al. (2009), *service innovation quality* in this dissertation describes the conformance of service innovation outcomes to the preset performance specifications. The concept of service innovation quality is similar to what others have labelled as conformance quality (Jayaram and Narasimhan, 2007; Wu, 2010), innovation effectiveness (Froehle et al., 2000) and innovation process quality (Dervitsiotis, 2011). Due to the intangible characteristics of service and various categories of service innovation, in this dissertation the concept of service innovation quality is not limited to the quality of a finally offered service, but also incorporates the conformance of other parts that are associated with the whole innovation process (e.g., changes of the service delivery approach or the introduction of a new technology into a service).

1.2.4 Core topic: service innovation categorization

The topic of service innovation categorization has received extensive attention for the purpose to label various categories of service innovation according to their substantial differences (Snyder et al., 2016). Many characteristics differentiate these categories. Categorizations can create useful heuristics and can provide a systematic basis for comparison and operationalization of diverse categories. Such a categorization is also

useful for practitioners, as management practices may vary between different categories of service innovation (Avlonitis et al., 2001).

Service innovations that feature different innovativeness characteristics may require different success factors and management approaches (Song and Montoya-Weiss, 1998). Evaluating innovativeness helps to identify innovation challenges and the sources of uncertainty which are potential determinants of innovation failure (Loch et al., 2008). Based on their innovativeness characteristics, the existing literature has classified innovations into categories, frequently by means of identifying their degree of change (e.g., radical versus incremental innovation) or type of change (e.g., product versus process innovation).

A concentration on the degree of change in service innovation rather than the type of change (e.g., Gallouj and Weinstein, 1997; de Vries, 2006), may fail to identify which part qualifies as the service innovation. In turn, an emphasis on the type of change in service innovation rather than the degree of change (e.g., Hjalager, 1997; Sirilli and Evangelista, 1998), may fail to indicate its degree of innovativeness as an incremental, moderate or radical service innovation. A thorough assessment of service innovativeness enables a more systematic selection, assessment and improvement of service innovation projects in practice (Kock et al., 2011).

Despite extensive attention in the literature, some conceptual studies on service innovation categorization lack subsequent empirical evidence for the actual existence of the proposed categories (Avlonitis et al., 2001). Although derived theoretically and conceptually, a categorization is not fully developed until being empirically validated (Bozarth and McDermott, 1998). With several exceptions (e.g., Berry et al., 2006), major studies on service innovation categorization do not provide specific examples of each category, despite the importance of such details for practitioners (Hsieh et al., 2013). Furthermore, associated operationalization information about how to classify service innovations has been omitted by some categorizations.

1.3 Research contributions

This dissertation makes several contributions to service innovation research and practices related to the three research topics that are central in the research question.

First, this dissertation proposes a framework of ‘service innovation management’, specifically in the context of online travel agencies (OTAs), through refining an existing model from the NSD field and covering the success factors of service innovation. These results are based on a case study at Ctrip, the largest OTA in China. Extant investigations on service innovation management tend to concentrate on developed economies, such as US and Europe. This dissertation takes the perspective of organizations in emerging

economies (specifically in China) to complement extant service innovation research. In terms of *service innovation management at OTAs*, the proposed framework provides (1) academia with a point of departure for future research and (2) practitioners with a structured approach.

Second, this dissertation reveals that service innovativeness, organizational renewal, frontline employee involvement in idea generation and top management involvement in idea application are four significant antecedents of ‘service innovation quality’, specifically in the context of healthcare. These results are based on statistical analyses of data from 168 service innovation projects in Dutch healthcare organizations. This dissertation sheds new light on the area of service innovation quality (specifically in healthcare), through firstly (1) integrating two pathways of value creation (i.e., service innovativeness and organizational renewal), (2) examining the contributions of two employee groups, and (3) providing a more explicit view of the different impact degrees of two employee groups under the condition of service innovativeness.

Third, this dissertation offers a novel ‘service innovation categorization’ for labeling various service innovation categories based on four dimensions of service innovativeness. Adopting an associated classification scheme, 11 service innovation cases situated in Walt Disney World, Singapore Airlines or China Eastern Airlines are classified into four proposed categories. Four categories are environment-, technology-, market- and organization-dominant service innovation, with their level of change successively from higher to lower. Depending on a thorough assessment of service innovativeness to develop a four-dimensional categorization, this dissertation adds to the current understanding of service innovation categorization, by simultaneously concerning the degree and type of change in a single model and providing an optimized classification scheme.

1.4 Outline and research approach

The main body of this dissertation comprises a collection of four studies, which singly and in combination, contribute to a deeper understanding of how organizations effectively manage service innovations with quality outcomes, in various service categories.

The multi-level structure of the four studies considers service innovation activities at the organizational and project level. The multi-context structure involves service innovation activities across innovation categories and service industries (specifically tourism and healthcare). The entire dissertation discusses a variety of service innovations, and each study focuses on a specific service industry.

The main question of this dissertation – *How do the organizations effectively manage service innovations with quality outcomes, in various categories?* – is split into four sub research questions (SRQs) and the three aforementioned research topics: service

innovation management, service innovation quality and service innovation categorization. Empirical data that form the basis for the analyses in this dissertation are gathered in two qualitative and two quantitative studies, in which the SRQs are addressed in four chapters respectively. A key linkage between the four studies is the different role of service innovativeness in the studies.

SRQ1 concerns service innovation management. Despite the growth of literature and practices in organizations, the knowledge of service innovation management remains relatively weak about its components, for example, of both project-level service innovation process and organization-level contextual factors, particularly in tourism contexts (e.g., Hjalager, 2010; Henderson et al., 2018). This raises SRQ1 about the components of service innovation management, specifically in the context of OTAs.

SRQ1: What are the components of service innovation management for OTAs?

Chapter 2 addresses SRQ1, based on an in-depth case study of Ctrip, the largest OTA in China. Service innovativeness is one of the success factors of service innovation in the proposed management framework in Chapter 2.

SRQ2 and SRQ3 concern service innovation quality. The majority of research on service innovation performance takes a market/outcome perspective, with comparably fewer attempts to empirically address the operational/process performance (e.g., Froehle et al., 2000; Atuahene-Gima, 2003). This dissertation investigates the operational performance orientated by quality, in terms of service innovation quality and specifically in the context of healthcare. SRQ2 and SRQ3 focus on the perspective of value creation and employee involvement respectively.

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

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 3 addresses SRQ2 and Chapter 4 addresses SRQ3. Both chapters investigate the antecedents of service innovation quality based on a questionnaire survey in Dutch healthcare. In their respective conceptual models of two chapters, service innovativeness plays the role of independent variable in Chapter 3 and of moderator in Chapter 4.

SRQ4 concerns service innovation categorization. Substantial differences exist between diverse service innovations. The topic of service innovation categorization has received extensive attention in the literature, through primarily identifying their degree of change (e.g., Gallouj and Weinstein, 1997; de Vries, 2006) or type of change (e.g., Hjalager, 1997; Sirilli and Evangelista, 1998). More insights are needed into the integration of the two

streams, which leads to SRQ4.

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

Chapter 5 addresses SRQ4, based on a multiple-case study in tourism (specifically theme parks and airlines). The various dimensions of service innovativeness lay the foundation of the proposed categorization in Chapter 5.

Table 1.1 provides an overview of the studies in Chapters 2–5 as well as their research outputs, including journal publications and/or conference presentations. Both Chapter 2 and Chapter 5 adopt the case study as the research method in the context of tourism. Both Chapter 3 and Chapter 4 analyze data from a questionnaire survey in healthcare.

Table 1.1 Overview of the studies in Chapters 2–5

Chapter	Specific topic	Role of service innovativeness	Sub research question (SRQ)	Level of analysis	Method	Empirical context	Research output (journal publications/conference presentations)
2	Service innovation management	A success factor of service innovation	SRQ1	Organization	In-depth case study	Chinese online travel services	- Version of this study is in the second round of revision at <i>Journal of Service Theory and Practice</i>
3	Service innovation quality	A determinant of service innovation quality	SRQ2	Project	Questionnaire survey	Dutch healthcare	- Version of this study is published in the journal <i>Total Quality Management & Business Excellence</i> - Version of this study is presented at <i>R&D Management Conference (2016)</i>
4		A moderator of service innovation quality	SRQ3				Version of this study is published in <i>The Service Industries Journal</i>
5	Service innovation categorization	A classification basis of a proposed service innovation categorization	SRQ4	Project	Multiple-case study	Theme parks and airlines	- Version of this study is presented at the <i>ISPIM Innovation Conference (2017)</i>