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Identifying the Determinant Factors of E-Service Innovations: A Qualitative Meta-Synthesis

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Abstract

Recently, significant technological changes, greater customer demand and the rise of new business models have triggered a rapid increase in electronic service (e-service) innovations. Now, innovation in the provision of e-services has become one of the priorities of managers in order to gain a competitive advantage. However, few studies so far have explored the determinant factors needed in the organization in order to innovate and implement e-services. The purpose of this study is to provide a comprehensive framework that integrates the multiple factors of e-service innovation. Using the qualitative meta-synthesis research method and after a systematic review of the literature and examination of 61 articles, all factors needed for innovation in e-services have been identified and classified in 4 capabilities, 9 concepts, and 30 codes. The results show that e-service innovation depends on networking, informational, operational and supporting, and strategic capabilities. These capabilities create the required platform for innovation in e-services in the organization. This study contributes to current e-service researches by offering theoretical advances related to innovation in e-services. Furthermore, the capabilities, concepts, and codes identified in this study would be useful as a

comprehensive conceptual framework for developers of e-service innovation to plan and evaluate their related initiatives.

Keywords: Electronic service; E-service innovations; Dynamic capability view; Meta-synthesis.

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Introduction

Services are increasingly impacting on the world economy, contributing over 70 percent of employment in OECD countries and 68.9 percent of the worldwide GDP (World Bank, 2017). Activities of successful companies represent a shift from manufacturing to services. For example, International Business Machines (IBM), General Electric, and Hewlett Packard all of which have changed themselves from being preponderantly manufacturing organizations to service-based organizations (Randhawa & Scerri, 2015). Meanwhile, service innovation attracted the focus of some researchers (Ben Letaifa, 2016) and they called for more research on this issue (Marques, Bikfalvi, Simon, Llach, & Lerch, 2015).

Since the development of the Internet, firms have applied new information technologies to deal with the continuing challenges encountered when providing customer service and creating competitive services that enhance firm value. The Internet has rapidly evolved into an important marketing medium and channel for services providers since its beginning (Theodosiou, Katsikea, Samiee, & Makri, 2019). Using information technology in service practices enhances operational efficiency and reduces costs (Loukis, Paralogs, & Salagara, 2012; Oliveira, Roth, & Gilland, 2002; Chuang & Lin, 2015). Adopting information technology to provide services is generally referred to as e-service, which is "the use of new information technologies via the Internet to enable, improve, enhance, transform, or devise a business process or system to complete tasks, solve problems, conduct transactions, or create value for current or potential customers" (Benaroch & Appari, 2011). According to Statista (2019), the worldwide revenue of the e-services market which consists of four segments: online food delivery, dating services, fitness and event tickets was about US$178 billion in 2018 and is expected to increase to US$290 billion by 2023.

E-service can enable firms to strengthen interactions with customers and increase customer service (Chen, Wu, & Wu, 2006; Oliveira et al., 2002). Although e-service has become the main elements of effective customer service, the significance of its impact on firm value depends predominately on e-service innovation. E-service innovation is a type of service innovation using technical capabilities to improve service delivery and adjust services through electronic technologies (Tsou, Chen, & Liao, 2016) and has a significant impact on firm value (Chuang & Lin, 2015). As Ciuchita, Mahr and Odekerken-Schröder (2019) indicated, introducing innovation

is one of the most prevalent and persistent strategies for e-service providers to differentiate themselves from competitors and outperform them.

An increasingly growing flow of innovation studies has emerged that tries to identify influencing factors that are essential to e-service innovation. The keywords co-occurrence map of the researches about "service innovation" which have been indexed in Scopus reveal that a combination of service innovation and digital service and digitalization is the new trend in recent years (Figure 1).

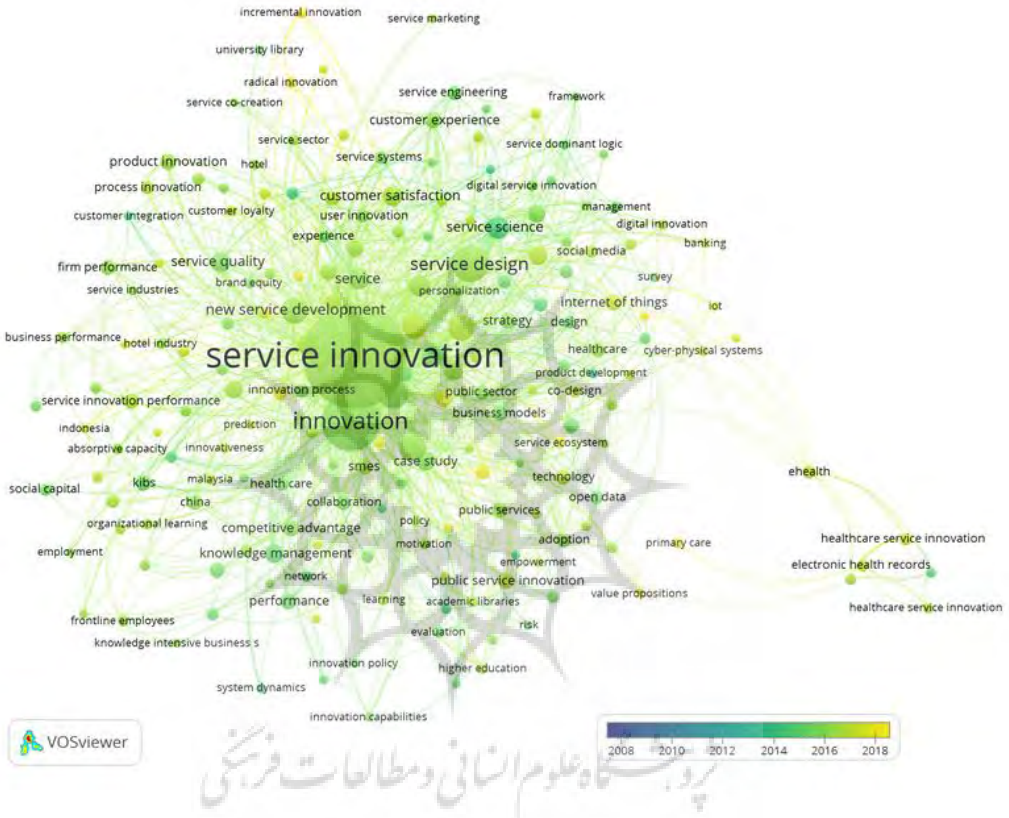

Figure 1. The keywords co-occurrence map of the "service innovation" studies in Scopus

Based on a review of related research, previous studies have explored innovation by focusing on the conceptual basis of successful e-service implementation (Michalski, 2003), how e-service innovation is affected by cooperation capability (Tsou & Chen, 2012), technology-integration mechanisms (Tsou, 2012) and co-creation (Chuang & Lin, 2015). A few empirical studies have examined the complementary role of R&D as an effective internal factor and technology sourcing as an effective external factor related to firm innovation (Cassiman & Veugelers, 2006; Lokshin, Belderbos, & Carree, 2008). These studies emphasize two issues: first, the firms must harmonize with effective internal and external factors to obtain the benefits of e-service innovations. Second, changes to a firm's effective internal and external factors are crucial for enhancing the innovation of e-services (Chuang & Lin, 2015).

Based on the resource-based view (RBV) theory, a firm's unique resources and capabilities are the key sources of competitive advantage for improving performance (Barney, 1991; Melville, Kraemer, & Gurbaxani, 2004). Although the RBV theoretical framework explains how firms' unique resources and capabilities give competitive advantages, the theory is inadequate for explaining events that occur in rapidly changing environments (Eisenhardt & Martin, 2000), because over emphasizing core resources and capabilities can prevent firms from adapting resources and capabilities to new competitive environments (Leonard-Barton, 1992). Thus, researchers have extended the RBV to the dynamic capability view (DCV), which emphasizes the capabilities enclosed in a firm's managerial and organizational processes. This view is aimed at reconfiguring resources and coordinating processes efficiently in response to rapid environmental changes (Gibson & Birkinshaw, 2004).

Teeceet al. (1997) emphasized the critical role of capabilities to "integrate, build, and reconfigure internal and external competencies to confront rapidly changing environments". Regarding this view, previous researchers have suggested that firms must strengthen dynamic capabilities that enable them to renew, reconfigure, and adjust existing firm-specific resources in order to respond to Internet-related developments (Daniel & Wilson, 2003; Rindova & Kotha, 2001). Based on the DCV, Lokshin et al. (2008) stressed that internal and external sourcing is complementary to innovative activities. This indicates that their communications may be relevant to improving firm innovation performance.

Meanwhile, innovation in e-services has been studied from many different perspectives such as prediction, design, adoption, and development or business innovation (Bon, Gordijn & Akkermans, 2017). However, little research grounded in the RBV and DCV has examined internal and external driving forces that connect a firm to its environment and facilitate new and novel ideas (Chang & Chuang, 2016).

In the current research, using the logic of the DCV, it has been attempted to identify success factors that empower the firm in e-services innovation, and classify them in a comprehensive conceptual framework. This framework embraces all internal and external factors influencing innovation and gives a basis for assessing and developing the capabilities required for e-service innovation. Hence, the objective of this study is to present a systematic analysis of previous research using meta-synthesis method that is accompanied by a more descriptive and bibliographic investigation to identify and classify the capabilities needed for e-service innovation and to determine the dimensions of each of these capabilities.

Literature Review

E-service

There is no common definition for e-services, and researchers have looked at it from different perspectives (Taherdoost, Sdibuddin & Jalaliyoon, 2015). Many definitions provided for e-

service but all of them focus on the role of information technology (IT) in service provisions. E-services are services over the Internet which are characterized as intangibility, process nature, homogeneous, inseparability, non-ownership, interaction, self-service, non-rival (Taherdoost et al., 2015).

E-services are considered as a new trend in businesses around the world (Jalil, 2016). This term has been applied to many areas. The two dominant areas of e-services are e-business (or e-commerce) and e-government (Kvasnicova, Kremenova & Fabus, 2016). Today, customers can easily access services via e-channels regardless of time and place limitations, and thus this appropriate service provision method is rapidly replacing traditional service channels (Zhou, Guo & Zhou, 2018). Thus, many services have embraced online channels called e-services.

E-service innovation

Service innovation is viewed as the introduction of new services or the gradual improvement of existing services (Miles, 2008). Service innovation is better argued in terms of four dimensions, which are referred to as novelty in service concept, client interface, service delivery system, and technology (Barrett, Davidson, Prabhu & Vargo, 2015; Miles, 2008). Service innovation may appear in each mentioned dimensions. There are different approaches for discussing service innovation: product-oriented approach, service as uniquely distinct from product approach and relational and institutional approach (Chae, 2014).

Many of the innovations made in the area of service are unsuccessful. Reports estimate the success rate of only 58 percent, due to different reasons such as failure to follow the stage-gate, the tendency to randomize and create innovative projects, the tendency to use easy and fast processes, and low attention to cultural and managerial issues (Jin, Chai, & Tan, 2014).

Several tools have been proposed for service innovation evaluation and improvement such as service blueprints, quality function deployment (QFD), and procedure models (Nada & Ali, 2015). But most tools are designed to focus on a particular project or operation. For example, a service blueprint is a visual map which illustrates how the customer interacts in the initial and final stages of the service and identifies breakpoints and inefficiencies. QFD focuses on connecting the needs of customers with product/service specific characteristics, and procedure models also help define what should be done at each stage (Jin et al., 2014). Therefore, there is no specific tool to help organizations evaluate and manage organizational capabilities in the development and deployment of e-services. By using a systematic evaluation tool, companies will be able to enhance and improve their e-service innovation activities, and in addition to identifying the current status of innovation initiatives. They can determine the investment priorities in these projects and prevent the loss of resources of the organization and will promote balanced development in this field.

Research design

Research method

One of the key aspects of e-service innovations programs is the assessment of the organization's capabilities in these initiatives and the identification of the areas needing improvement. Despite the importance of e-service innovation, there is a limited understanding of organizations' capabilities regarding e-service innovation. Therefore, the main motivation of the study is to fill this gap by integrating e-service capabilities in order to enhance the effectiveness of e-service innovation efforts in businesses. To obtain this objective, a 'qualitative meta-synthesis' approach has been selected as the research method for this study. Meta-synthesis is known to be an exploratory research method designed to build or extract a common frame of reference from qualitative research results and integrate the qualitative findings of various studies in order to offer comprehensive and interpretive insight (Siau & Long, 2005).

Catalano (2013) stated that the meta-synthesis process of searching, evaluating, synthesizing, and interpreting quantitative or qualitative studies in a particular field. This new approach did not yet widely used in information systems management. Literature review and qualitative meta-synthesis were used in some IS fields like decision support systems (Miller et al., 2015), e-health (Li et al., 2013), IS innovations (Lawrence, 2013) and also innovations in various fields including social innovation (Morais-Da-Silva et al., 2016) and innovative ecosystems (Ferasso et al., 2018) to integrate various aspects of the given programs. But despite the theoretical value of qualitative meta-synthesis, it was omitted in the field of e-service innovation and the need for conducting research to consolidate the e-service capabilities of businesses is felt. Therefore, a qualitative meta-synthesis method was used to comprehensively synthesize previous researches' findings.

Research procedure

The meta-synthesis approach was based on guidelines of Sandelowski and Barroso (2006). According to Sandelowski and Barroso (2006), qualitative meta-synthesis five steps include: 1) Formulating the purpose and research questions, 2) Literature search, 3) Quality appraisal, 4) Analysis techniques and concepts, and 5) Synthesizing the findings. Each step is explained below:

1. Formulating the purpose and research questions

As mentioned before, the fundamental aim of the study is to develop a new and integrated framework for e-service innovation capabilities through a meta-synthesis procedure. Regarding the aim of the study, the research questions focus on structuring and classifying the researches in the area of e-service innovation. The research questions of this meta-synthesis study are:

RQ1: What is the distribution of the articles by journals?

RQ2: What is the trend of the articles between the selected time periods?

RQ3: What is the most common research methods applied?
RQ4: What are the main capabilities of e-service innovation?

2. Literature search

To meet the rigor of systematic literature reviews, the process of searching and selecting the articles has to be made as transparent as possible (Wendler, 2012). The most critical threat to the validity of any research synthesis is the failure of a sufficiently exhaustive search. The conducted systematic literature review was based on scientific databases and conference websites. In this step, the search keywords used were "service innovation", "e-service capabilities", "e-service innovation capabilities", "e-service diffusion" and "e-service innovation success" into scientific databases and conference websites in the field of businesses and IS. One of the search keywords had to be eliminated by scanning the abstracts because the results of these articles were irrelevant to this study. This was ''e-service acceptance'', where the articles covered only topics of users' acceptance and adaptation. These articles dealt with behavioral variables that effect after the implementation usage of e-service by users and they were not in the context of e-service capabilities that deal with organizational requirements to implement these initiatives. The selected initial papers were published between 2000 and 2017.

The initial search strategy included broad search criteria to ensure that all relevant articles would be identified. To guarantee that the papers dealt with scientific research, managerial books and reports were excluded following this orientation, the decision was made to search scientific databases of publications. The selection of general search terms permitted the early identification of as many relevant papers as possible. In this case, the search was able to highlight papers dealing with "service(s) development" string, meaning they also had the possibility to present insights regarding "service/e-service innovation" (Jaw et al., 2010). The databases selected were Business Source Complete and Academic Search Complete of ERIC, Sage, Wiley, Taylor & Francis, Springer, Emerald, IGI, IEEE, ScienceDirect, and EBSCO. These databases assured that publications of the most important research domains were covered.

3. Quality appraisal

After a systematic literature review, 1046 articles were collected. To ensure that only relevant and qualified articles selected to be finally analyzed, irrelevant articles were excluded. The criteria for exclusion were content-based and publication based. Only papers published in the journals and important international conference proceedings with the English language were kept.

Also regarding content, articles that did not relate to e-service innovation capabilities as the main focus were excluded. For evaluation content, in the first step, abstracts were reviewed and from the total retrieved article only 162 articles remained and subject to reviewing the whole of articles. A full reading of the 162 papers disclosed some recurring patterns. Although many of the

articles used the term "e-service innovation" in the abstract, few really defined, conceptualized, and reemphasized the term throughout the paper. In many articles, the combination of the two terms occurred due to the presence of the innovation in public and governmental services, as well as affecting factors on the quality of service delivery and acceptance of e-innovation, these papers also were removed from the included articles, and is considered not relevant to the investigation.

In this step, the critical appraisal tool of Glynn (2006) was used to assess the quality of the extracted studies and quality papers were selected based on four main criteria of statistical population, data collection, research design, and results. Critical appraisal, a vital component of systematic reviews, is a thorough evaluation of the article to identify the best articles on any given field (Crowe & Sheppard, 2011). Each of the critical appraisal tools (CATs) was suitable for specific research design. In reviewing study related to CATs assessment conducted by Crowe and Sheppard (2011), Glynn (2006) was appropriate for all research designs. Figure 1 depicts the selection strategy of articles. As shown in Figure 2, a final sample of 61 articles was selected for further analysis.

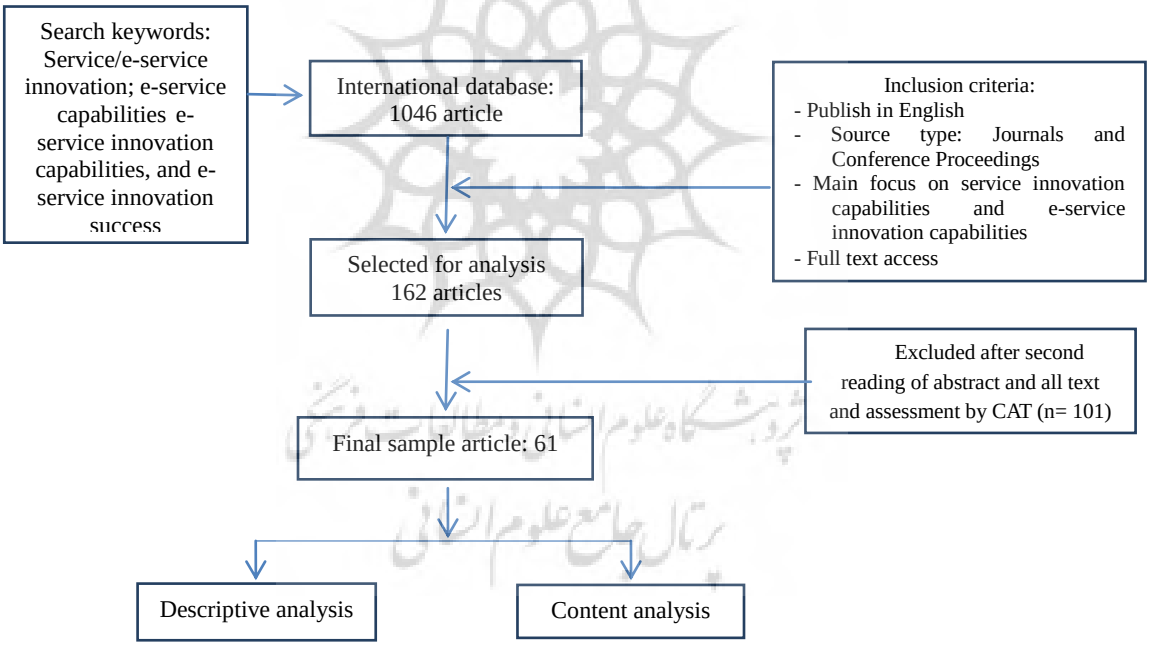

Figure 2. Results of the search strategy

4. Analysis techniques and concepts

All included articles were read afterward and classified according to the research questions. Appendix 1 lists all analyzed articles along with their author's name, publication year, journal/conference title, type of studied innovation, and summary of the research. The included articles were categorized according to the year of publication, the source of publication, research design, and research content.

5. Synthesizing the findings

The last step in meta-synthesis is to synthesize the translated and interpreted concepts and themes to recognize new concepts for a common frame of reference (Lee, 2010). According to Fegran et al. (2014), to synthesize the content of selected articles, naive reading, structural analysis, and critical interpretation were conducted. First, the authors performed naive readings of the extracted text to obtain initial ideas about the content and extracted codes. Then, the text was independently and interactively read and categorized into concepts and themes. Finally, the themes and summaries were aggregated and critically interpreted. The findings of these steps are discussed in detail below.

Reliability and Validity

The validity of any research synthesis project relies on having retrieved all relevant reports of studies in a target domain (Sandelowski & Barroso, 2006). The validity of qualitative research (i.e., trustworthiness) implies that the researcher controls the accuracy of the findings by applying specific procedures (Creswell & Creswell, 2017). Interpretive research cannot be evaluated by pillar validation methods. According to Lukka and Modell (2010), given the nature of interpretive research, they provide a process perspective for the validation of these studies. Sandelowski and Barroso (2006) introduced four types of validity related to synthesis research: descriptive validity, interpretive validity, theoretical validity, and pragmatic validity. In this study, in order to validate the findings, the following procedures have been used recommended by Sandlowski and Barso:

- Use of all search channels of communication,
- Consult with experts in research synthesis,
- Independent searching by at least two reviewers
- Documentation of all procedures,
- Weekly research team meetings to establish areas of consensus and to negotiate consensus in areas.

Therefore, it can be stated that the findings of this meta-synthesis research have all four types of validity measures namely descriptive, interpretive, and theoretical as well as pragmatic. To ensure the reliability of meta-synthesis findings, a new researcher was asked to recode 5 articles randomly and then Cohen Kappa was estimated. Kappa is a statistic used to assess the extent to which classifications are made on a consistent basis, allowed us to determine agreement among coders (Armenakis, Bernerth, Pitts & Walker, 2007). The intercoder reliability using Cohen Kappa was 0.78 indicating (Wasko & Faraj, 2005).

Findings

A total of 61 selected articles have been carefully reviewed and classified. In this section, we report firstly the analysis of their distribution to answer RQ1, RQ2, and RQ3, and then the synthesis of e-service innovation capabilities extracted from selected articles (RQ4).

Distribution by the journal (RQ1)

The quantitative bibliographical analysis in terms of journals and years of publication provided a first descriptive analysis (Calabrese, Castaldi, Forte, &Levialdi, 2018). The final sample was composed of 61 papers, of which 57 of them were published in journals and 4 of them were published in conference proceedings. About the databases under consideration, most of the papers were extracted from ScienceDirect (33 articles), Emerald (12 articles) and Sage (4 articles) respectively. Figure 2 shows the distribution of articles by journals. Studies in the topic of our investigation were widely spread amongst different journals.

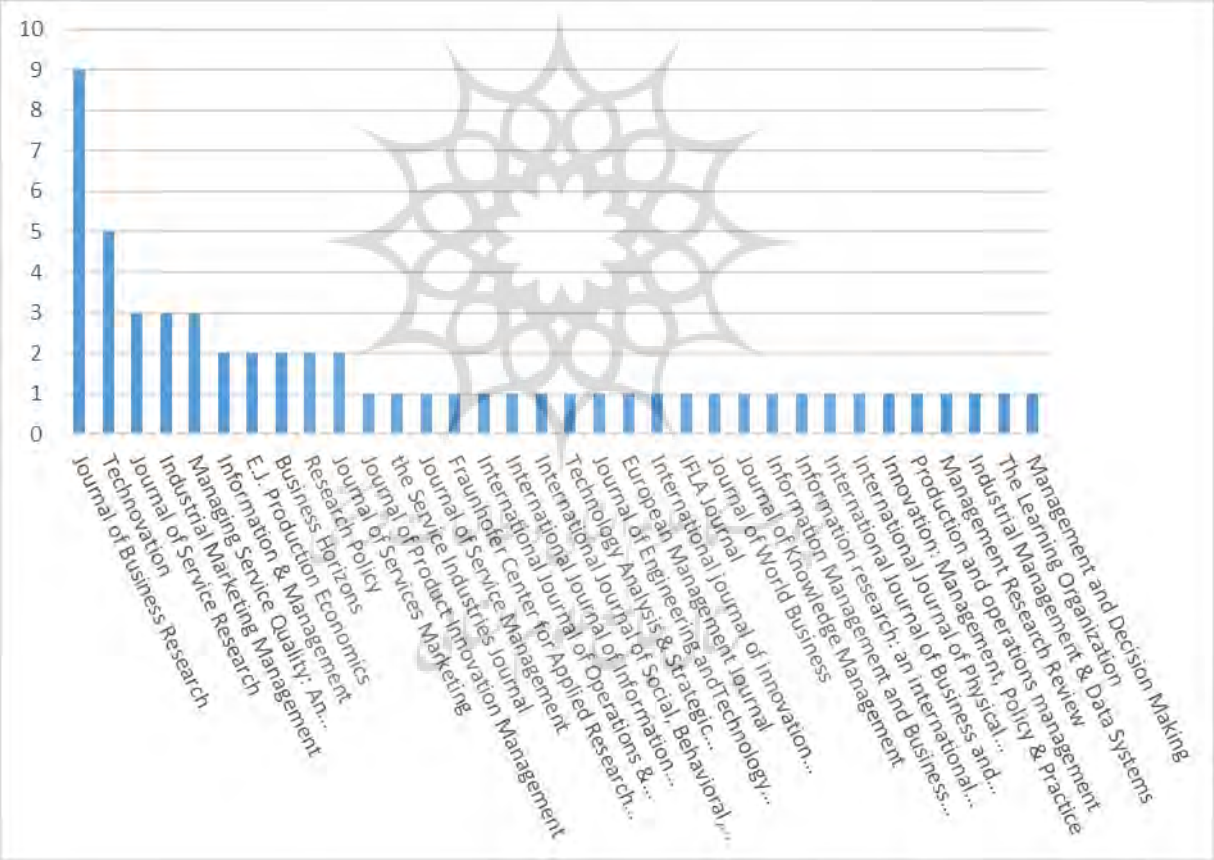

Figure 3. Distribution of articles by the journal (57 articles, conference proceedings excluded)

As shown in Figure 3, two journals that published the most articles are "Journal of Business Research" (9 articles) and "Technovation" (5 articles).

Distribution by Publication's years (RQ2)

Figure 4 shows the evolution of the number of papers in the chosen period, revealing the rising importance of the topic under investigation. Indeed, 79 percent of papers in the final sample have been published in the last six years (2010-2017), and thus only 21 percent in the first five years (2000-2010).

Figure 4. Distribution of articles over the period of time

Distribution by research method (RQ3)

The analysis regarding RQ3 revealed a set of applied research methods in included articles. Figure 5 summarizes the research design in the included articles.

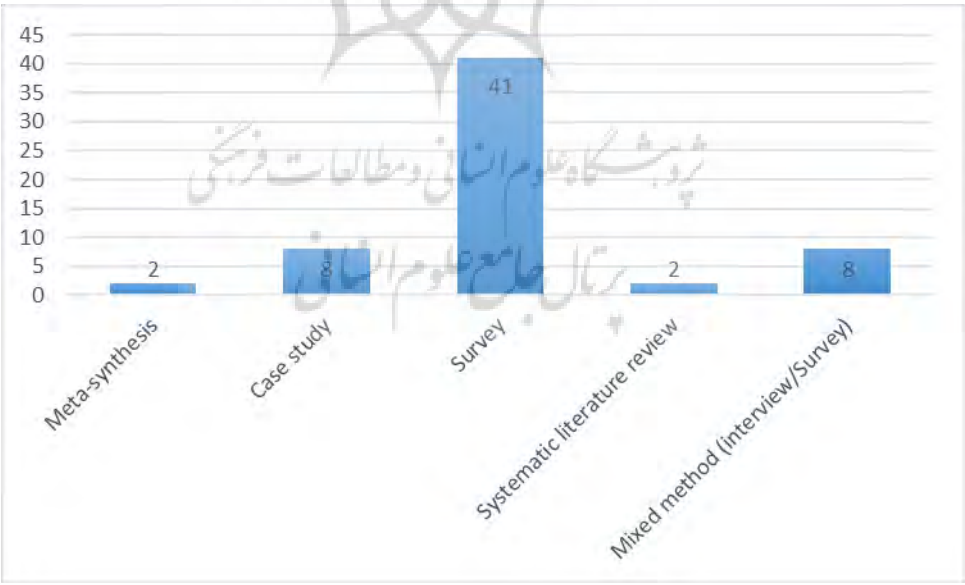

Figure 5. Distribution of articles by research design

Accordingly, the most used research methods were surveyed (41 articles), case study (8 articles) and mixed method (8 articles). Only 2 articles applied meta-synthesis which conducted in service innovation.

Synthesizing the findings of selected (RQ4)

Although the emergence of studies related to e-service innovation is obvious (Chuang and Lin, 2015; Tsou et al., 2016 & Bon et al., 2017), a clear insight of e-service innovation capabilities remains. Therefore, the aim of the current study is to build a framework on the concept of e-service innovation, from rigor and scientific researches studies in indexed academic databases using the principles of interpretative synthesis. The "word cloud diagram" of the authors' keywords among the selected studies is presented to Figure 6. As illustrated in Figure 6, the keywords of the studies are appropriate for the research objective.

Figure 6. The word cloud diagram from the selected studies

The map and network of co-occurrence of keywords are shown in Figure 7 which produced by VOSviewer Software. Through analyzing the map, it is revealed that concepts like technology's push perspective, openness competence, and social innovation are emerging trends in service innovation filed.

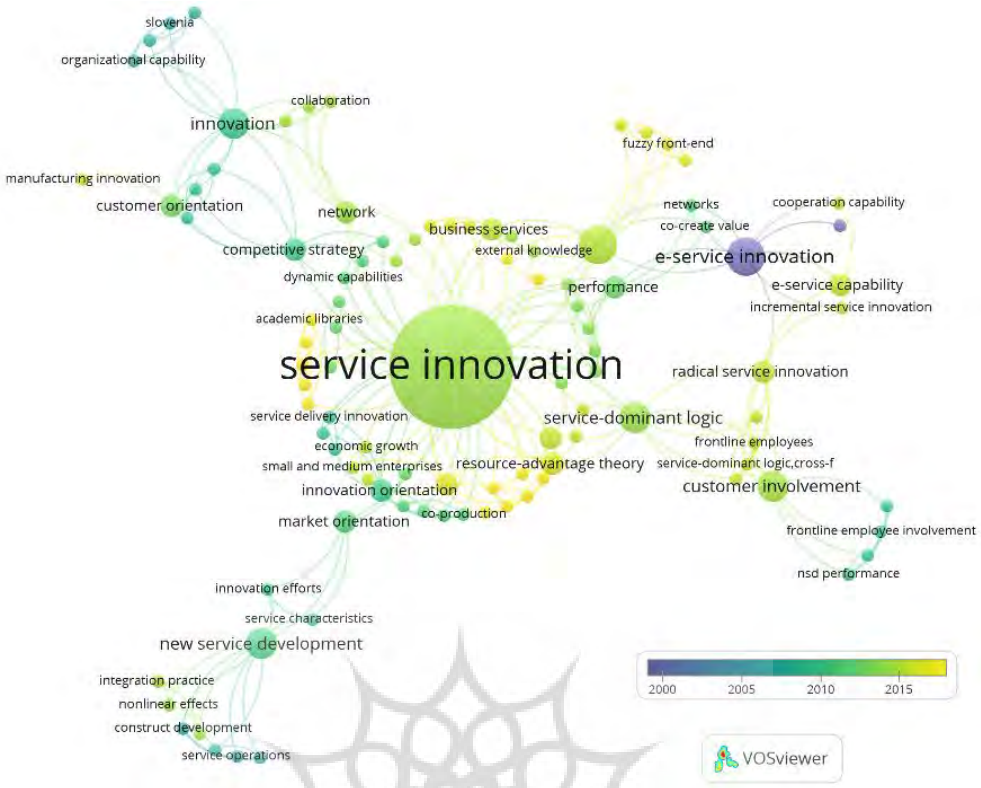

Figure 7. The keywords co-occurrence map of the selected studies

In this study, firstly, all the 61 studied articles were comprehensively considered to extract and interpret measures related to e-service innovation capabilities. Then, the extracted codes were categorized in the same concept, and finally, through the applied content analysis method, the capabilities of e-services innovation were grouped in 4 themes, 9 concepts, and 33 codes. After drawing e-service innovation capabilities, the finding submitted to five academic members to evaluate our classification. Some minor revisions were done, for example three codes were eliminated due to the same meanings and two codes were placed in another concept through discussion meetings by these experts. Therefore, finally, 30 codes remained. Table 1 presents the final extracted themes, concepts, and codes from a synthesizing approach.

Table 1. Emergent themes, concepts, and codes produced through meta-synthesis

Themes	Concepts	Codes	Sources
Networking capability	Partnership with external partners	Collaborate with Customer	Blommerde and Lynch, 2016; Jin et al., 2014; Rapaccini et al., 2013; Posselt and Förstl, 2011; Chuang and Lin, 2015; Tsou and Hsu, 2011; Chen et al., 2011; Santamaría et al., 2012; Zulkepli et al., 2015; Hsieh and Hsieh, 2015; Bettencourt, Brown and Sirianni, 2013; Ordanini and Parasuraman, 2011; Cheng and Krumwiede, 2017; Trigo and Vence, 2012; Hidalgo and D'Alvano, 2014; Ommen et al., 2016; Gottfridsson, 2014; Melton and Hartline, 2015; Ashok et al., 2016; Tsou et al., 2016; Homburg and Kuehnl, 2014; Melton and Hartline, 2010; Carbonell et al., 2009; Heirati and Siahtiri, 2017; Lin et al., 2010;

Themes	Concepts	Codes	Sources
		Collaborate with business partner	Blommerde and Lynch, 2016; Rapaccini et al., 2013; Tsou and Chen, 2012; Tai Tsou, 2012; Tsou, 2012; Chen et al., 2011; Zulkepli et al., 2015; Wang et al., 2016; Ordanini and Parasuraman, 2011; Trigo and Vence, 2012; Hidalgo and D'Alvano, 2014; Yen et al., 2012; Ommen et al., 2016; Gottfridsson, 2014; Tsou et al., 2016; Bhatnagar et al., 2017; Homburg and Kuehnl, 2014; Chen et al., 2009; Heirati and Siahtiri, 2017;
		Collaborate with knowledge-based partner	Janeiro et al., 2013; Trigo and Vence, 2012; Ommen et al., 2016;
	Internal coordination	Employee collaboration	Zulkepli et al., 2015; Ordanini and Parasuraman, 2011; Ommen et al., 2016;Gottfridsson, 2014; Melton and Hartline, 2015; Melton and Hartline,2010;
		Cross-functional integration	Posselt and Förstl, 2011; Zulkepli, et al., 2015; Jaw et al., 2010; Cheng and Krumwiede, 2012; Tsou et al., 2016; Homburg and Kuehnl, 2014;
Informational capability	Knowledge management	Absorptive capacity	Blommerde and Lynch, 2016; Jin et al., 2014; Posselt and Förstl, 2011; Chuang and Lin, 2015; Thakur and Hale, 2013; Hurnonen et al., 2016; Ordanini and Parasuraman, 2011; Mina et al., 2014; Islam et al., 2017; Salunke et al., 2011; Ashok et al., 2016; Jafarnejad and MatinRashidi, 2015; Chapman et al., 2002; Thanasopon et al., 2016; Lalit,2009; Omar et al., 2016;Giannopoulou et al., 2014
		Creativity/ideas management	Oke, 2007; Hidalgo and D'Alvano, 2014;
		Experience management in e-service innovation	Cheng and Krumwiede, 2017; Yen et al., 2012; Salunke et al., 2011;
		Knowledge management systems	Jin et al., 2014; Tsou et al., 2016; Chen et al., 2009;
	Competitive intelligence	Customer intelligence	Posselt and Förstl, 2011; Thakur and Hale, 2013; Wang et al., 2016; Ordanini and Parasuraman, 2011; Hidalgo and D'Alvano, 2014; Jaw et al., 2010; Cheng and Krumwiede, 2012; Salunke et al., 2011; Omar et al., 2016; Leskovar-Spacapan and Bastic, 2007; Grawe et al., 2009; Bhatnagar et al., 2017; Ryu and Lee, 2017
		Competitor intelligence	Posselt and Förstl, 2011; Thakur and Hale, 2013; Cheng and Krumwiede, 2017; Hidalgo and D'Alvano, 2014; Jaw et al., 2010; Cheng and Krumwiede, 2012; Salunke, et al., 2011; Leskovar-Spacapan and Bastic, 2007; Grawe et al., 2009;
		Technology intelligence	Bhatnagar et al., 2017; Ryu and Lee, 2017; Wang et al., 2016;
		Entrepreneurial intelligence	Witell et al., 2017; Michalski, 2003; Salunke et al., 2013; Cheng and Krumwiede, 2017; Bello et al., 2016; Yen et al., 2012; Salunke et al., 2011; Leskovar-Spacapanand and Bastic, 2007; Bhatnagar, et al., 2017;
Operational and supporting Capability	Organizational support and infrastructure	Innovation supportive culture	Posselt and Förstl, 2011; Chuang and Lin, 2015; Tsou and Hsu, 2011; Verdu-Jover et al., 2017; Ordanini and Parasuraman, 2011; Leskovar-Spacapan and Bastic, 2007; Bhatnagar et al., 2017; Chen et al., 2009; Giannopoulou et al., 2014; Froehle and Roth, 2007
		Flexible structure	Verdu-Jover et al., 2017; Omar et al., 2016; Chen and Tsou, 2007; Giannopoulou et al., 2014

Themes	Concepts	Codes	Sources
		Transformational leadership	Chuang and Lin, 2015; Yen et al., 2012; Gottfridsson, 2014; Nada and Ali, 2015; Omar et al., 2016; Froehle and Roth, 2007;
		Resource allocation	Rapaccini et al. 2013; Jaw et al. 2010; Nada and Ali, 2015;
	People	Human capital	Rapaccini et al., 2013; Posselt and Förstl, 2011 ; Oke, 2007; Tsou and Hsu, 2011; Santamaría and Mills, 2012; Bello et al., 2016; Hidalgo and D'Alvano, 2014; Nada and Ali, 2015; Tsou et al., 2016; Bhatnagar et al., 2017; Giannopoulou et al., 2014; Froehle and Roth, 2007
		Training and learning	Santamaría et al., 2012; Verdu-Jover et al., 2017; Chen and Tsou, 2007;
		Reward and motivation	Jaw et al., 2010;
	IT capability	IT infrastructure	Rapaccini et al., 2013; Posselt and Förstl, 2011; Chuang and Lin, 2015; Tsou and Hsu, 2011; Chen and Tsou, 2012; Santamaría et al., 2012; Wang et al., 2016; Nada and Ali, 2015; Chen and Tsou, 2007; Jafarnejad and MatinRashidi, 2015; Chapman et al., 2002; Chen, Tsou et al., 2009 ; Giannopoulou et al., 2014 ; Froehle and Roth, 2007
		IT skills	Chen and Tsou, 2012; Chen et al., 2009
		Technology integration	Tsou and Chen, 2012; Tsou, 2012;
Strategic capability	E-service governance	Project management	Rapaccini et al., 2013; Chuang and Lin, 2015; Hidalgo and D'Alvano, 2014; Nada and Ali, 2015;
		Process management in e-service innovation	Jin et al., 2014; Rapaccini et al., 2013; Nada and Ali, 2015;
		Strategic investment	Yen et al., 2012; Grawe et al., 2009
		Performance evaluation	Rapaccini et al., 2013; Nada and Ali, 2015;
	Strategy management	Strategy and goal setting	Blommerde and Lynch, 2016; Jin, Chai et al., 2014; Oke, 2007; Chuang and Lin, 2015; Chen and Tsou, 2012; Yen et al., 2012; Nada and Ali, 2015; Chen and Tsou, 2007;
		Strategic alignment of e-service innovation with business strategy	Nada and Ali, 2015; Lalit and Johri,2009
		Change management	Blommerde and Lynch 2016; Jin et al., 2014; Rapaccini et al., 2013; Posselt and Förstl, 2011; Chuang and Lin, 2015; Tsou and Hsu, 2011; Chen et al., 2011; Santamaría et al., 2012; Zulkepli et al., 2015; Hsieh and Hsieh, 2015; Bettencourt and Brown, 2013; Ordanini and Parasuraman, 2011; Cheng and Krumwiede, 2017; Trigo and Vence, 2012; Hidalgo and D'Alvano, 2014; Bettencourt et al., 2013; Ommen et al., 2016; Gottfridsson, 2014; Melton and Hartline, 2015; Ashok et al., 2016; Tsou et al., 2016; Homburg and Kuehnl, 2014; Melton and Hartline, 2010; Carbonell et al., 2009; Heirati and Siahtiri, 2017; Lin et al., 2010;

Conclusions and discussions

In this paper in order to design a comprehensive theoretical framework, all dimensions of e-service innovations have been identified through a systematic literature review by the meta-synthesis method. A brief discussion of the categories and related concepts in the proposed theoretical framework will be provided in the following section.

Networking capability

The findings show that networking capabilities entail the partnership with external partners and internal integration.

"Partnership with external partners" assumes that partnership with market-based partners such as customers and suppliers can help to better determine the market requirement for innovated goods, services or processes. Its advantage is that the costs and risks of the innovation process will be shared among partners. The collaboration of customers and business partners is associated with indicators such as communication, participation in various steps of innovation and the growth of electronic services, sharing of information, knowledge and open innovation. In addition, organizations may collaborate with universities and research institutes in order to gain access to basic knowledge, either to better attainment their existing capabilities across a wide range of functional management domains, including HR, finance and marketing, or to discover new styles for innovation and development (Mina et al., 2014).

"*Internal integration*" encompasses employee collaboration and cross-functional integration. Schneider and Bowen(1984) stated that since operational personnel have a unique position in continuously monitoring the responses of customers to the process of company service providers, and they also are continually interacting with customers, thus they are a valuable source of new service ideas and a resource in planning how to successfully deliver and implement a package of new core and completed services (Melton & Hartline, 2010). Griffin (1997) has defined cross-functional integration as "the extent of interaction and communication, the level of information sharing, the degree of coordination, and the extent of joint involvement across functions in the tasks of promoting and innovating an innovative service or product (Tsou, Chen, & Liao, 2016).

Informational capability

This category of capabilities encompasses KM capabilities and competitive intelligence. The absorption capacity, idea and creativity management, experience management and knowledge management systems (KMSs) have been regarded as the key component of "*KM capabilities"*. Absorptive capacity has been defined as the ability of the company to achieve, recognize, transfer, and application of new information from the environment, in particular, the partners (Tai Tsou, 2012; Tsou, 2012; Tsou & Chen, 2012). The idea and creativity management involve the processes of production, choice, and transformation of views into reliable commercial products and services (Oke, 2007). Cohen and Levinthal (1990) note that a high level of previous learning

increases a firm's absorptive capacity, which permits more effective use of additional knowledge. The knowledge gained from former experiences of e-service innovation makes the acquisition and maintenance of new knowledge easier and decreases the total quantity of knowledge that must be acquired (Yen, Wang, Wei, Hsu, & Chiu, 2012). KMSs comprise the adoption of advanced IT to compile, enhance and accelerate the massive scale of knowledge management inside and outside the organization (Alavi & Leidner, 2001). Generally speaking, the extent to which corporate knowledge has been deposited in databases and decision-making support systems may ascertain the ability of an organization to react to environmental changes (Sabherwal & King, 1991).

"Competitive intelligence" includes four types of intelligence namely customer intelligence, competitors' intelligence, technological intelligence, and entrepreneurial intelligence. According to Deschamps and Nayak (1995), three bits of customers', competitors', and technological intelligence have been determined. The intelligence of customers and competitors has been defined as the degree which acquires the business information of customers and competitors and makes the development and implementation of a strategy that meets the demands and needs of customers and responds to competitors, possible. Technology intelligence appraises new technologies and predicts the leap of future technologies (Deschamps & Nayak, 1995). The definition of entrepreneurial intelligence includes the policies and activities of the corporation that empowers the organization to accept the entrepreneurial state towards new business opportunities. Entrepreneurial intelligence is known based on three characteristics of innovativeness, proactiveness, and risk-taking (Tuan, 2015). Also, in this section, bricolage capability is also considered in entrepreneurial intelligence.

Operational and support capabilities

These capabilities encompass organizational support and infrastructure, people, and the IT capability of the organization.

"*Organizational support and infrastructure*" is a crucial aspect of implementing e-innovation in the organization. Inflexible and strict organizational structure, lack of a supportive culture of innovation and lack of support for senior management are obstructions to innovation in the organization. Among the traditional leadership styles, transformational leadership has been offered as a promising method that leads to practical innovation. Transformational leadership expedites innovation activities at organizational levels by the mental encouragement of employees and the motivation stimulation of them (Omar et al., 2016). The structure, inflexible and innovative companies, is with a minimum of rules and regulations, a description of the open job and a high degree of independence. Structural flexibility comprises job rotation criteria, multi-tasking teams, the authority cession to middle and lower-level managers, and the fluidity and dynamism of employees in units. Innovation resources are referred to as the essential inputs, encompassing time, people, and finance in the e-services innovation.

"*People*" encompasses all the concentration and considerations associated with human resources in the organization's social environment. The capabilities regarding "people" are associated with a set of codes that regard the human factor in the organization, including human capital, training and learning, and reward and motivation. Human capital comprises having competent staff in dealing with e-service systems, analysis skills, decision-making, creative thinking and problem-solving skills, communication skills, self-control and self-development ability and the individual attitude to e-services. Reward and motivation also include the possibility of assigning higher organizational positions to people with better opinions, the precise motivations for promoting employees to implement e-services, the mechanisms to stimulate employees to look for the ideas of innovation in e-services and the connection of motivational approaches with job performance appraisal system. Training and learning is achieved through motivational activities of employees to explore novel systems and techniques for solving e-service problems, participation in systematic research motions, creative problem-solving training, promoting employees to engage in training programs, organization openness for recommendations and complaints, provision of educational tools and the existence of a training unit to manage training plans of e-services.

"*Information technology capability"* encompasses IT infrastructure, IT skills, and technology integration in the organization; a firm's IT infrastructure including its hardware, software, database systems, and communication systems that supports the implementation of e-services (Chen & Tsou, 2012; Chuang & Lin, 2015). The organization's information technology skills, in this study includes two critical dimensions based on Grant's (1991) classification scheme, namely technical IT skills (e.g., competencies in emerging technologies) and managerial IT skills (e.g., the effective management of IS functions) (Chen & Tsou, 2012; Chen, Tsou, & Huang, 2009). Technology integration has been designated as the electronic integration amongst various components of organizational and inter-organizational IT (such as data, systems, applicative programs, and telecommunication and network communications) to build a regularly used IT architecture (Tsou, 2012; Tsou & Chen, 2012).

Strategic capabilities

These capabilities include two main concepts: e-service governance and strategy management.

"E-service governance" encompasses project management, process management in e-service innovation, strategic investment and performance evaluation which is in accordance with COBIT 5 definition of IT governance. Project management includes the activities of planning, implementation, control, and completion of the e-services innovation project. The process management in e-service innovation refers to the ability to implement new and innovative e-service development processes (Jin et al., 2014). Strategic investment indicates the extent to which the firm strategically concentrates on the innovation of e-services and the allocation of capital to implement the program (Yen et al., 2012). Performance evaluation entails the provision

of feedback systems (evaluating the acceptance and impact of innovative services, gathering information on the customer satisfaction and quality of the service), and principal performance indicators (such as evaluation of performance time and cost as well as design of main performance indicators' dashboards) (Rapaccini, Saccani, Pezzotta, Burger, & Ganz, 2013).

"Strategy management" includes strategy and goals setting, strategic alignment of e-service innovation with business strategy and change management. The importance of having a clearly defined strategy for the innovation process has been approved by Griffin (1997) and Cooper et al. (1991). The innovation strategy affords a clear direction and effort focus of the entire organization on the goal of joint innovation (Oke, 2007). E-services innovation strategy alignment is defined as the ability to integrate the e-services innovation strategy with the business strategy. Eventually, change management is referred to the provision of the organizational environment to implement e-service innovations, decreasing the resistance of individuals against innovative changes, and recognizing and eliminating obstacles to the implementation of electronic services innovation. The skill of change management across the organization to facilitate changes is the key to success.

Theoretical and practical implications

The failure of investments in e-services innovation has motivated researchers and managers to evaluate these initiatives. Despite the importance of e-service innovation, in theory, organizations are confronted with challenges in implementing their initiatives. Addressing these challenges requires comprehensive attention to all relevant dimensions which are omitted in previous studies. Summarily, the proposed approach for evaluating e-learning systems makes three main contributions as following:

1) By using a meta-synthesis approach, the current study attempts to provide a comprehensive tool for evaluating the required capabilities regarding e-services innovation project. It offers a multidimensional view for managers to assess their strengths and weaknesses in e-service innovation initiatives.
2) It provides valuable insight regarding the studies in field of e-service innovation. These findings help researchers to know the trend of the research, most influential journal, and which areas are most focused and considered and which areas are underestimated and need more investigation.
3) It has a generic nature and can in turn be used as a reference model for designing and implementing e-service innovation in various industries. It also provides a common language for e-service innovation projects.

Understanding the e-services innovation capabilities assists managers to evaluate the current position of the organization in these initiatives and helps them to formulate appropriate strategies for improvement. This study provides insight for organizations to strengthen their e-service innovation implementation and also improve customer satisfaction. Managers can use the

proposed framework as a descriptive tool to assess the current state of each dimension of e-service innovation.

The findings recommend the managers to take the multidimensional perspective on implementation of e-service innovation initiatives. It suggests that they must consider networking capabilities, informational capabilities, operational and support capabilities as well as strategic capabilities simultaneously to success. Some recommendations, which could be valuable for e-service innovation developers and organizations are:

- To implement e-service innovation, organizations must consider networking capabilities and enhance the maturity of some aspects such as participate with external partners as well as internal integration via employee participation and cross-functional coherence.
- To development of e-service innovation strategies, informational capabilities such as KM capabilities and competitive intelligence must be considered. These capabilities focus on the knowledge and intellectual maturity of an organization.
- To design e-service innovation initiatives successfully, operational and support issues that are viewed as essential are organizational support and infrastructure, people, and the IT capability of the organization.
- To improve e-service innovation project progress, strategic capabilities must be considered along with other capabilities. In this paper, two key capability areas are identified for strategic capabilities which are e-service governance and strategy management.

Although the findings of this study contribute to the theory of e-service, it is not without limitations. First, due to applying meta-synthesis approach, a limitation is related to inclusion criteria and time period. In this study, we only considered English language papers and journals and conference papers. Second, although this study provides the comprehensive theoretical framework which encompasses key capabilities and practices of e-service innovation initiatives; it is useful to apply exploratory case study in order to enhance this theoretical model and indicating its applicability. Third, certainly the priorities of capabilities are different in different industries, it is recommended to weight e-service innovation capabilities according to industries' circumstances.

Appendix 1

Table 2. The list of sampled papers

No.	Authors / year	Source (Journal / Conference)	Key findings	Research method	Indexed in
1	Witell et al. (2017)	*Journal of Business Research*	The investigation of the impact of bricolage capabilities on e-service innovation	Case study	Web of Science (WoS), Scopus
2	Jin et al. (2014)	*Managing Service Quality: An International Journal*	new e-service development success factors categorized into four management processes – strategy management, process formalization, knowledge management, and customer involvement. Dimensions and levels of maturity for each process are presented.	Meta-synthesis	Scopus
3	Rapaccini et al. (2013)	*The Service Industries Journal*	a model for assessing the maturity of new service development processes in manufacturing companies that offer product-services. This model uses a five-step scale based on key elements based on the following dimensions: (1) Organizational approach (2) Resources (3) the involvement of customers, suppliers, and other stakeholders and (4) Performance management	Case study	WoS, Scopus
4	Posselt and Förstl (2011)	*Fraunhofer Center for Applied Research and Supply Chain Service*	This paper identifies successful factors in literature and categorizes them into three categories according to the emergence in the development process: Antecedents, NSD Process Success Factors and Service Success Factors	Systematic literature review	Scopus
5	Blommerde and Lynch (2016)	*Irish Academy of Management Conference*	Maturity matrix development to assess the service innovation capability based on four areas of user involvement, knowledge management, strategizing, and networking	Meta-synthesis	-
6	Oke (2007)	*International Journal of Operations & Production Management*	Development of a framework for service innovation in producing content based on new product development, innovation and the study of the relation between innovation types, innovativeness, management practices and innovation performance in service firms	A mixed-method (interview /Survey)	WoS, Scopus
7	Chuang and Lin (2015)	*International Journal of Information Management*	investigate the antecedents of e-service innovation and its impact on a firm's performance outcomes of value co-creation and firm value	Survey	WoS, Scopus
8	Michalski (2003)	*International Journal of Management and Decision Making*	Briefly describe new forms of corporate entrepreneurship and Then, recommendations for managing innovation providing e-service of global technology companies through the use of corporate entrepreneurship management fundamentals.	Multi case study	Scopus
9	Tsou and Hsu (2011)	*I.J of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*	examine the contributing factors on e-service innovation and firm performance, including financial and non-financial aspects	Survey	Scopus
10	Tsou and Chen (2012)	*Information & Management*	Investigate the mediating effects of knowledge and technology integration mechanisms (KIMs and TIMs) on interfirm development competency and e-service innovation also examining the moderating effect of them on partner match.	Survey	WoS, Scopus

No.	Authors / year	Source (Journal / Conference)	Key findings	Research method	Indexed in
11	Tai Tsou (2012)	*Journal of Service Management*	Explain the correlation between collaboration competency, partner match, knowledge integration mechanisms (KIMs), and e-service product innovation	Survey	WoS, Scopus
12	Tsou (2012)	*Technology Analysis & Strategic Management*	This article investigates the mediating effect of internal and external technology integration mechanisms between interfirm co-development competency and the innovation of the e-service process and product	Survey	WoS, Scopus
13	Chen et al. (2011)	*Industrial Marketing Management*	this study examines the influence of business-to-business co-production on service innovation in the information technology (IT) industry	Survey	WoS, Scopus
14	Chen and Tsou (2012)	*Journal of Engineering and Technology Management*	this study Investigating the Influence of Information Technology on the Service and Innovation Process and the Intermediate Role of Customer Services	Survey	WoS, Scopus
15	Santamaría et al. (2012)	*Technovation*	Identifies the determinants of service innovation in the manufacturer and determines whether they differ in product or process innovation in these same ifrm.	Survey	WoS, Scopus
16	Thakur and Hale (2013)	*Journal of Business Research*	Development of a comparative theoretical model based on the Strategic Innovation Paradigm Bain's Social-Conduct-Performance (S-C-P) Paradigm and Social Capital Theory of Innovation;	Survey	WoS, Scopus
17	Zulkepli et al. (2015)	*Procedia - Social and Behavioral Sciences*	study on the influence of communication on service innovation and the constraint in the implementation of service innovation in SMEs	Survey	WoS, Scopus
18	Salunke et al. (2013)	*Journal of Business Research*	This research shows that Service Entrepreneurship (SE) and Service Innovation affects electrical services that are associated with a Sustainable Competitive Advantage (SCA).	Mixed method (interview / Survey)	WoS, Scopus
19	Verdu – Jover et al. (2017)	*European Management Journal*	The paper offers two determinants of adaptive culture that helps us to facilitate how the culture grows to facilitate product and service innovation. The paper suggests that structural flexibility and reflective learning affect the result of product/service innovation by creating an adaptive culture.	Survey	WoS, Scopus
20	Wang et al. (2016)	*Int. J. Production Economics*	Investigates the effect of customer orientation on innovation performance in production and services by comparing their innovation mechanism	Survey	WoS, Scopus
21	Hsieh and Hsieh (2015)	*Journal of Business Research*	This study investigated how customer co-creation affects the performance of service innovation through operant resources	Survey	WoS, Scopus
22	Hurnonen et al. (2016)	*International journal of innovation management*	This study focuses on how Knowledge-Intensive Business Service (KIBS) firms employ knowledge-integration practices in different stages of the service-innovation projects.	Multi case study	WoS, Scopus
23	Bettencourt and Brown (2013)	*Business Horizons*	Providing three approaches for companies seeking new service innovation based on how customers define value	Multi case study	WoS, Scopus
24	Ryu and Lee (2017)	*Information & Management*	Check the role of technology in service innovation based on the service innovation framework	Survey	WoS, Scopus
25	Ordanini and Parasuraman (2011)	*journal of Service Research*	In this paper, a conceptual framework for investigating the antecedents and consequences of service innovation is presented	Survey	WoS, Scopus
26	Janeiro et al. (2013)	*Journal of Business Research*	This paper focuses on the connection between service firms and universities and a better understanding of this connection	Survey	WoS, Scopus

No.	Authors / year	Source (Journal / Conference)	Key findings	Research method	Indexed in
27	Mina et al. (2014)	*Research Policy*	This paper examines the open innovation practices of business services firms and then consider the implications for open innovation of the accepting of an including services business model by manufacturing companies	Survey	WoS, Scopus
28	Islam et al. (2017)	*IFLA Journal*	This paper examines the effect of knowledge management and knowledge management cycle phases on service innovation	Survey	Scopus
29	Cheng and Krumwiede (2017)	*International Journal of Production Economics*	This study proposes that the four types of intangible capital (market, service delivery, interaction, and learning) are required for manufacturing firms to create superior new services.	Survey	WoS, Scopus
30	Trigo and Vence (2012)	*Research Policy*	this article offer cooperation-oriented typology for service innovation composed of three profiles: Compressed in the technological scientific flows of information, Intensity in interactions with customers, and low profile Intensity in interactions, called lonely innovators	Survey	WoS, Scopus
31	Bello et al. (2016)	*Journal of World Business*	This article suggests that the entrepreneurial orientation of management and expert human capital are vital capabilities, enabling a Professional service firm to develop and market innovative services profitably	Survey	WoS, Scopus
32	Hidalgo and D'Alvano (2014)	*Journal of Business Research*	This study presents an analysis of the relationship between inward and outward innovation activities in service organizations.	Survey	WoS, Scopus
33	Yen et al. (2012)	*Decision Support Systems*	This study examines the readiness of service innovation based on two contexts (i.e., "strategic orientation toward service innovation" and "enabling mechanism of service innovation") that, together, determine a firm's preparation to accept organizational changes involved in service innovation	A mixed-method (interview / survey)	WoS, Scopus
34	Jaw et al. (2010)	*Technovation*	This study investigates how service characteristics, market orientation, and efforts in innovation together affect the performance of new service development	Survey	WoS, Scopus
35	Thanasopon et al. (2016)	*Technovation*	This article examines the impact of openness competence on front-end uncertainty decrease and service innovation success	Survey	WoS, Scopus
36	Cheng and Krumwiede (2012)	*Technovation*	This paper investigates the Market orientation impact on Incremental and Radical service innovation and new service performance	Survey	WoS, Scopus
37	Bettencourt et al. (2013)	*Business Horizons*	This article focuses on developing collaborative solutions with customers, and that companies will be better able to create breakthrough service offerings and processes.	Case study	WoS, Scopus
38	Ommen et al. (2016)	*Journal of Business Research*	This paper focuses on the factors that affect the well-designed stakeholder participation processes	Survey	WoS, Scopus
39	Salunke et al. (2011)	*Industrial Marketing Management*	This research offers a model of innovation-based competitive advantage. The model proposed that entrepreneurial service firms following innovation carefully select and use dynamic capabilities that empower them to achieve more innovation and sustained competitive advantage	Survey	WoS, Scopus
40	Giannopoulou et al. (2014)	*Managing Service Quality: An International Journal*	This study examines from a practice-based perspective what constitutes capabilities for reinforcing creativity in service innovation.	Multicase study	Scopus
41	Gottfridsson (2014)	*Journal of Services Marketing*	the aim of research id to create a primary understanding of how diverse internal and external factors contribute to service innovation	Multicase study	WoS, Scopus
42	Nada and	*Procedia CIRP 30*	This article used service value creation capability to	Survey	Scopus

No.	Authors / year	Source (Journal / Conference)	Key findings	Research method	Indexed in
	Ali (2015)		evaluate the service innovation capability of small and medium enterprises. Service value creation capability is consists of strategic capability, managerial capability, organizational capability, and adaptive capability.		
43	Melton and Hartline (2015)	*Journal of Services Marketing*	The study shows that companies can effectively involve the customer and the employee in service innovations In order to make Radical innovation and High performance of the new service.	Survey	WoS, Scopus
44	Ashok et al. (2016)	*Journal of Knowledge Management*	This paper investigates how collaboration with existing and prospective users and Investing in knowledge management activities can affect the process of radical and incremental innovation in a knowledge-intensive business service industry.	Mixed method (interview / survey)	WoS, Scopus
45	Omar et al. (2016)	*Information Management and Business Review*	this research study the effect of organizational structure, transformational leadership, organizational learning and customer orientation on innovation capabilities and the effect of innovation capability on organizational performance	Survey	Scopus
46	Chen and Tsou (2007)	*Information research: an international electronic journal*	This study examines how information technology is adopted and managed to enhance service innovation activities. How innovation service activities can affect the competitive advantage of the companies	Survey	WoS, Scopus
47	Jafarnejad and Matin Rashidi (2015)	*International Journal of Business and Technopreneurship*	this study investigates the capability of e-service innovation, research and development capability and its impact on a firm's performance outcomes	Survey	Scopus
48	Chapman et al. (2002)	Managing Service Quality	In this paper, the factors affecting innovation in logistics services are examined, identifying contributions of the new resources, and using industry examples, it examines the use of these resources to logistics companies because they have a broad role in a new business model.	Systematic literature review	Scopus
49	Leskovar-Spacapan and Bastic (2007)	*Technovation*	The purpose of this study is to determine whether the strategic orientation of Slovenian companies is supported by significant internal capabilities that enable them to achieve the success of innovation and sustainable competitive advantage.	Survey	WoS, Scopus
50	Grawe et al. (2009)	*International Journal of Physical Distribution & Logistics Management*	This article examines how the company's strategic orientation affects service innovation capability and its impact on market performance.	Survey	WoS, Scopus
51	Tsou et al. (2016)	*Innovation: Management, Policy & Practice*	This study investigates the influence of intellectual capital on e-service innovation and examines the impact of mediation cross-functional integration and external collaborative competency on the correlation between intellectual capital and e-service innovation.	Survey	WoS, Scopus
52	Froehle and Roth (2007)	*Production and operations management*	This article provides a theoretical framework that integrates process-oriented and resource-oriented views on the development of new services by defining and organizing 45 practical structures for NSD-related activities and activities that take place in contemporary service firms.	Mixed method (interview / survey)	WoS, Scopus
53	Bhatnagar et al. (2017)	*Management Research Review*	The purpose of the paper is to identify the dimensions of a firm's service innovation competence	Mixed method (interview / survey)	WoS, Scopus
54	Homburg and Kuehnl	*Journal of Business Research*	This research examines the relationship between internal and external integration practices and innovation success of new products and new services.	Survey	WoS, Scopus

No.	Authors / year	Source (Journal / Conference)	Key findings	Research method	Indexed in
	(2014)				
55	Anning-Dorson (2017)	*Journal of Business Research*	This study examines the role of customer involvement by assessing the influence firm-level customer involvement capability has on service firm performance in two economic contexts	Survey	WoS, Scopus
56	Melton and Hartline (2010)	*Journal of Service Research*	This article examines the role of customers and front-line employees in the new service development process.	Mixed method (interview / survey)	WoS, Scopus
57	Carbonell et al. (2009)	*Journal of Product Innovation Management*	his study examines the antecedents and outcomes of customer involvement in New Service Development	Survey	WoS, Scopus
58	Chen et al. (2009)	*Journal of Service Research*	This article theoretically and empirically investigate innovations in providing services and its antecedents and outcomes	Survey	WoS, Scopus
59	Heirati and Siahtiri (2017)	*Industrial Marketing Management*	this paper investigates service innovation via collaboration with customers and suppliers.	Survey	WoS, Scopus
60	Lin et al. (2010)	*Industrial Management & Data Systems*	this paper investigates the effects of various dimensions of customer relationship management (CRM) on innovation capabilities	Survey	WoS, Scopus
61	Limpibunterng and Johri (2009)	*The Learning Organization*	This article examines the role of organizational learning capability in the new service development process	Mixed method (interview / survey)	WoS, Scopus

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