Proposed Model of E-Service Quality in the Context of E-Government: A Literature Review

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Abstract: The rapid development of Information and Communication Technology (ICT) has encouraged various government agencies to adopt ICT to provide services from traditional to e-services. The potential of ICT is utilized in order to improve the quality of government services. This study aims to propose a model of service quality in the context of e-Government. E-Service quality model can be used to measure the level of quality of e-Government services based on the existing dimensions. Models of e-service quality are generated through search and screening processes and synthesis processes for all identified dimensions. The results show that there are 12 dimensions of e-service quality model consisting of Web Design, Reliability, Responsiveness, Ease of Use, Efficiency, Citizen Support, Communication, Benefit & Opportunity Risk, Trust, Security and Leadership. The overall dimensions or factors of e-service quality should be accommodated by the government to improve the effectiveness and efficiency of electronic-based services.

Keywords: ICT, E-Service, Quality, Model, E-Government.

1. Introduction

The quality of service could influence customer loyalty(Caruana, 2002); (Oliver, 1980); (Zeithaml, V A., Berry, L L., Parasuraman, A., 1966). This is reinforced by the research that has been done in the banking industry and other industries that is based on technology that impacts customer satisfaction and loyalty (Ganguli, S., Kumar R S., 2011). They found that the quality of service to support easy and reliable technology (e-service quality) have a positive impact on customer satisfaction and loyalty. This is consistent with the statement of John in (Lupiyoadi, 2013)that a positive perception of the customer can be made of the quality of services provided, which in turn will refer to the satisfaction and loyalty of the customers to use the product or service. To differentiate the e-service quality, it should be examined first of the traditional service quality is not based on electronics because most e-service quality models are developed based on the traditional model. SERVQUAL developed by (Parasuraman, Zeithaml, V A., Berry, L L., 1985) was used as a generic instrument to measure the quality of service in various industrial sectors. Although the retailers, credit cards, securities institutions and banking (Zeithaml, V A., Berry, L L., Parasuraman, 1988) SERVQUAL consists of five dimensions: tangible, reliability, responsiveness, assurance and empathy, SERVQUAL for measuring e-service quality. However, applying the model SERVQUAL in the context of e-service quality becomes less efficient (Parasuraman, Zeithaml, V A., Berry, L L., 1985) where generic SERVQUAL dimensions need to be

redefined so that it can be used in the scope of e-service quality. This is due to the e-service is different from the traditional service when viewed from three areas:

- The absence of the sales staff. In the context of e-service, no meetings or services that arrive between customers and sales staff like traditional service.
- The absence of the elements of both tangible. In the context of e-services, processes are performed in a virtual environment that is intangible.
- Perform independently. In the context of e-service, customers are doing transaction and controlling of business processes (self-service).

It is even said to discriminate between service-based electronic and traditional services, (Alzola, L.M., Monroy, M.F, 2005)) argue that the physical aspect is reduced dominance of the level of e-service quality is a differentiating factor and a critical factor of success (CSF), especially for electronic-based business in order to survive (Zeithaml, V A., Berry, L L., Parasuraman, 1988)However, the issue of e-service quality does not only apply to the business environment but also other sectors, including public sector. Government agencies in particular have to improve their services to the public through e-Government system (Papadomichelaki, X., Mentzas, G., 2012)The SERVQUAL scale is used to measure e-service quality. Need more in-depth studies to develop the scale of the e-service quality especially for e-Government contexts.

The lack of studies of models of e-service quality can result in customer dissatisfaction due to the expectations and perceptions of not having met. In fact, there are several other variables in measuring e-services such as quality control and perceived risk (perceived control), etc. As said earlier that the model of e-service quality is the challenge of developing the scale or the stage of development (Zhilin, Y., Peterson, R.T., Cai, S., 2003)so it is a challenge to identify the scale of the model of e-service quality especially in e-Government domain. Therefore, the model of e-service quality was proposed especially in the context of e-Government system.

2. Research Methodology

As mentioned before, many researchers have formulated factors or models related to e-Service quality but no agreement or consensus which e-Service quality model is recommended for use. This research will be proposed an e-Service quality model which is the result of qualitative synthesis from several studies on the latest research development that is the last 5 years (2012-2017). The focus of this research is only those that are significantly related to the e-Services quality model especially in the domain of government agencies or known e-Government. Thus studies that are not significantly related to the domain of this study will not be included in the analysis phase. Therefore, in the process of data collection, rigid searching and filtering mechanism is presented in Figure 1.

The mechanism of the article search process in this study was taken from various articles of journals and conferences from reputable databases such as Scopus and other sources such as Google Scholar to enrich the research so that obtained a broader understanding of the model related to e-service quality, of course with the criteria of articles that have been published in the period 2012-2017 (state of the art). When searching, there are two keywords used in this research namely "e-Service Quality" and "e-Government". Both of these keywords were chosen given the scope of this research is more focused on the study of e-Service quality in the context of e-Government.
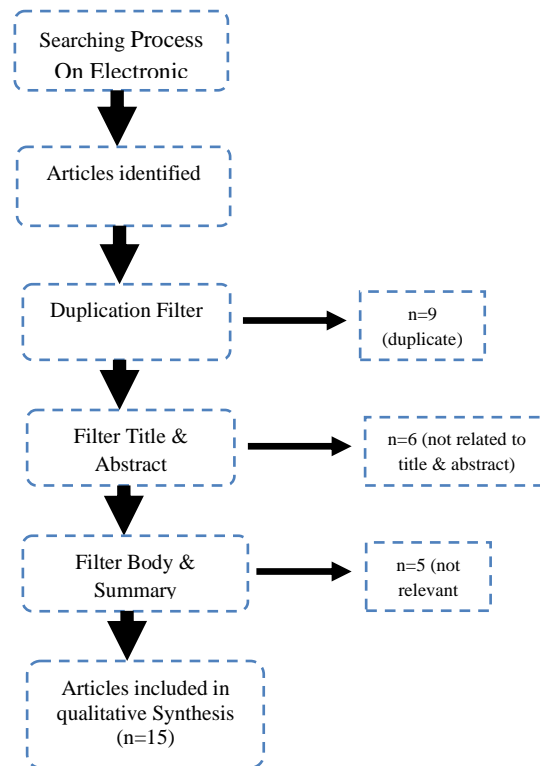
Fig. 1. Search & Filtering Mechanisms for Articles.

3. Result & Discussions

The result of searching and screening of articles that have been done related to e-service quality model especially in the context of e-Government in this research can be presented in Table 1 as follows:

Table 1: Study of e-Service Quality Model in the context of e-Government.

No	e-Service Quality Model	Total Dimension	Dimension/Factors	Resource
1.	Rasyid & Alfina (2017)	4	Web Design, Reliability, Responsiveness and Ease of Use	IOP (Scopus)
2.	Alanezi et. al (2012)	4	System Functionality, Content, Procedure and Citizen Support	Wiley (Scopus)
3.	Fan & Yang (2015)	3	Information Quality, System Quality and Service Quality	Scopus
4.	Bikfalvi et. al (2014)	7	Use/Reuse, Performance, Information layout & content, Citizen Support, Ease of Use, Recommend and Trust.	Non Scopus
5.	Papadomichelaki & Mentzas (2012)	4	Efficiency, Trust, Reliability and Citizen Support	Scopus
6.	Sayin & Okursoy (2013)	3	Reliability, Efficiency and Citizen Support	Non Scopus
7.	Sharma (2015)	4	Reliability, Security, Efficiency and	Emerald

No	e-Service Quality Model	Total Dimension	Dimension/Factors	Resource
			Responsiveness	(Scopus)
8.	Hien (2014)	8	Reliability, Communication, Responsiveness, Ease of Use, Content, Trust & Security, E-Governance and CIO	Non Scopus
9.	Omar (2012)	5	Information Quality, System Quality, Service Quality, Trust and Outcome	Springer (Scopus)
10.	Al-Hawary & Al-Menhaly (2016)	6	Website Design, Reliability, Responsiveness, Security & Privacy, Availability of Information Support and Ease of Use	Non Scopus
11.	Papadomichelaki & Mentzas (2012)	4	Efficiency, Trust, Reliability and Citizen Support	Scopus
12.	Osman et. al (2014)	4	Benefit & Opportunity, Cost, Time and Risk	Scopus
13.	Sa et. al (2016)	11	Customer Support, Alternative Channel, Reliability, Delivery, Task Information, Information Quality, Complaints, Privacy, Safety, Usability and Website Design	Scopus
14.	Zaide & Qteishat (2012)	3	System Quality, Process Quality and Information Quality	Scopus
15.	Janita & Miranda (2017)	4	Information, Efficiency, Security and Communication	Scopus

Based on Table 1 above it can be shown that there are 15 recent five years since 2012-2017 that are significantly related to e-service quality in the context of e-Government. It can be seen that some of the same dimensions of e-service quality are proposed by some studies but on the other hand, some studies ignore them. For example, Reliability dimension is widely claimed to be one of the factors affecting e-service quality in the context of e-Government but in some studies like (Osman I., 2014) it emphasizes the benefits and risks for its users in utilizing e-Government services. While in the study by (Janita, M., Miranda, 2017) Security dimension is the most important dimension based on expert opinion and considered as the most critical factor in evaluating the quality of e-service. Therefore, in this section synthesis of all identified studies can result in a more complete picture of the e-service quality model, especially the dimensions or factors that are critical in the application of e-service quality in the context of e-Government. The result of synthesis of e-service quality model in e-Government context in this research can be presented in Table 2 below:

Table 2. Synthesizing E-Service Quality Model in the context of E-Government.

No	E-Service Quality Model	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
1.	Rasyid & Alfina (2017)	√	√	√	√	-	-	-	-	-	-	-	-
2.	Alanezi et. al (2012)	√	-	-	-	-	√	√	-	-	-	-	-
3.	Fan & Yang (2015)	√	√	-	√	√	-	-	-	-	-	-	-
4.	Bikfalvi et. al (2014)	√	-	-	√	√	√	-	-	-	√	-	-
5.	Papadomichelaki & Mentzas (2012)	-	√	-	-	√	√	-	-	-	√	-	-
6.	Sayin & Okursoy (2013)	-	√	-	-	√	√	-	-	-	-	-	-
7.	Sharma (2015)	-	√	√	-	√	-	-	-	-	-	√	-

No.	Reference	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12
8.	Hien (2014)	√	√	√	√	-	-	√	-	-	√	√	√
9.	Omar (2012)	√	-	-	-	-	-	-	√	-	√	-	-
10.	Al-Hawary & Al-Menhaly (2016)	√	√	√	√	-	-	-	-	-	-	√	-
11.	Papadomichelaki & Mentzas (2012)	-	√	-	-	-	√	√	-	-	√	-	-
12.	Osman et. al (2014)	-	√	-	-	-	-	-	√	√	-	-	-
13.	Sa et. al (2016)	√	√	-	-	√	√	-	-	-	-	√	-
14.	Zaide & Qteishat (2012)	√	√	-	-	-	-	-	-	-	-	-	-
15.	Janita & Miranda (2017)	√	-	-	-	√	-	√	-	-	-	√	-

In Table 2 it can be seen that from the overall 15 e-service quality models can be synthesized into an e-service quality model with a total of 10 dimensions including Web Design (D1), Reliability (D2), Responsiveness (D3), Ease of Use (D4)), Efficiency (D5), Citizen Support (D6), Communication (D7), Benefit & Opportunity (D8), Risk (D9), Trust (D10), Security (D11) and Leadership (D12).

The overall dimension or critical factor in e-service quality that has been produced has the same level of importance. It means that nothing is more important and less important, all factors or dimensions are equal (equal). The 12 dimensions of the proposed e-service quality should be of concern to the government and others concerned to support the successful implementation of e-Service in the context of e-Government in Indonesia. However, the resulting e-service quality model needs to be tested empirically because the proposed model is only limited to a conceptual model. Thus, further research is needed to validate the e-service quality mode.

4. Conclusion

This study has conducted studies on various e-service quality models especially in the context of e-Government where there are 15 related studies of search results and article filtering involved in the synthesis process. Research in the domain of e-service quality has been widely practiced although it is still considered the initial phase of development so it is a challenge to identify the scale or dimension of the e-service quality model (Zhilin, Y., Peterson, R.T., Cai, S., 2003), (Sensuse, D I., Napitupulu, 2014). This research proposes the model and dimension of e-service quality based on the latest e-service quality study (5 years) and formulate 12 dimensions or factors affecting the quality of e-service in the context of e-Government is Web Design, Reliability, Responsiveness, Ease of Use, Efficiency, Citizen Support, Communication, Benefit & Opportunity Risk, Trust, Security and Leadership. All dimensions or factors should be accommodated by government agencies especially to implement electronic services successfully.

Acknowledgement

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