Systematic Literature Review of Satisfaction Model and Interest In Adoption of E-Government Services

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Abstract. The research aims to investigate two critical questions based on existing research, which are related to what factors affect people's satisfaction with e-government services and what things can affect the interest of people who want to use electronic services provided by the government. This is undoubtedly an essential concern for the government, which has invested many resources to improve the effectiveness and efficiency of public services. Although many studies have proven that satisfaction affects an interest in using e-government services, only some still need to discuss these two relationships into a single model that can be used to face the challenges of accepting e-government services. This study conducts a systematic literature review using the method proposed by Kitchenham with a combination of Webster and Watson in summarizing previous research in e-government and Information System design science. Start from formulating research questions, searching and collecting data, and determining the criteria and quality of the study to extracting and analyzing data. Interest in using e-government has yet to be widely studied and is the focus of future studies. The research findings show that performance expectancy is the dominant factor influencing user satisfaction and adoption of e-government services directly and indirectly. Meanwhile, citizen satisfaction has a direct influence on the adoption of e-government. Public service leaders and researchers who develop the scientific field of government information systems can learn and use the system's advantages to increase people's satisfaction and interest in using e-government services.

Keywords: Design Science, Literature Studies, EUCS, TAM, E-Government, E-Government Readiness.

1 Introduction

The global trend of E-Government is the Implementation of the 2030 Agenda for sustainable development; science, technology, and innovation play an essential role in breaking through some of the most complex challenges in today's world. Therefore, all countries on the continent are currently vying to improve the ranking of public services through innovation and digitization [1]. Based on these conditions, it is essential to conduct an empirical study to identify the determining factors that can be the key to success in developing E-Government. E-Participation primarily does not meet expectations; it becomes a new challenge that requires high responsiveness to

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openness. The government must be able to provide feedback to users as a form of high appreciation in the public service [2].

Several studies were conducted by collecting data classified into various customer satisfaction categories to improve e-government services. The approach is carried out by building a new qualitative theoretical framework [3], [4]. Some measure user satisfaction to reflect the intention to use the e-government [5]. And government policymakers to use effective frameworks to benefit from e-government services. Although many design research studies have been carried out in an attempt to explain the most significant factors of people's satisfaction and intention to adopt e-government services, it is not known with certainty what variables have the most influence or contribution even though they are used in different system conditions and environments, due to differences—results from previous empirical studies. Departing from the main problem, this study proposes a way through a systematic literature review derived from several reputable journals to be able to map the appropriate variables to be suggested into a model. This study aims to identify factors influencing user satisfaction with the government and public interest in adopting e-government services. Further exploration is carried out by selecting locations in several developed countries so that they can be adapted to their needs. The research questions include.

RQ.1 What are the studies' trends regarding theoretical definitions, research themes, and research methodologies?
RQ.2 What factors affect people's satisfaction with e-government services in developed countries?
RQ.3 What factors influence people's interest in using e-government services in developed countries?
RQ.4 e-government is under-explored in the existing literature review as a basis for travel for future research.

2 Method

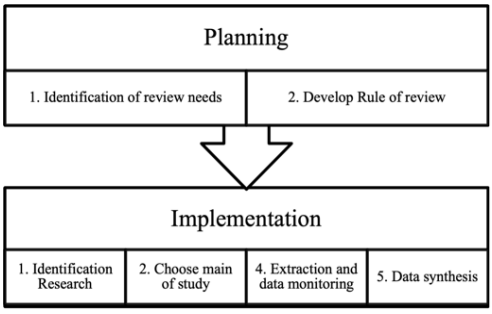

Fig. 1. Research Method

In conducting a systematic literature review, it is highly recommended to determine research questions. This is done to determine the research domain being handled, And the method used to conduct the study Kitchenham. A systematic review is carried out according to the defined search strategy so that the results appear fair. The search

strategy should allow the completeness of the search to be assessed. This is what researchers will do to identify and report research that supports research hypotheses that have been determined previously. The stages of this research, according to Figure 1, were carried out in 2 (two) major steps, namely (i) planning and (ii) implementation (Fig 1).

Webster and Watson state that a systematic literature review is intended to determine the position or area of the research field and the stage before starting a project in developing several theoretical models derived from the review [6]. Clarifying and articulating each article is necessary to define the contribution to the paper. Therefore, it is required to define critical variables. 2 (two) approaches can be chosen to conduct a literature review, namely: (i) author-centered and (ii) matrix concept-centered. Webster and Watson prefer the matrix concept center approach because it can easily group and present critical concepts found with a logical process.

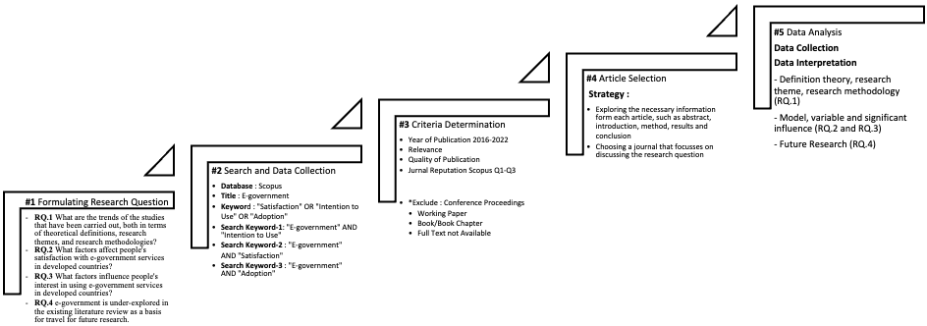

Fig. 2. Systematic Literature Review Method

Fig 2 briefly shows each activity in the main: (i) formulating research questions, (ii) searching and collecting data, (iii) determining criteria, (iv) selecting articles, and (v) analyzing data. The research questions adjust to the main problems related to what significant factors affect the satisfaction and intention of city residents in adopting city e-government services, trends in research methods, and themes that are widely used to what articles still need to be explored for future needs. The second step is to find and retrieve data based on databases for articles relevant to the keywords used: e-government and Intention to Use, E-government and Satisfaction, E-government. and Adoption. The third step is to select from the results of existing articles according to several criteria, such as the range of article publication years from 2016 to 2022, the relevance of article discussion content, publication quality (number of citations and depth of discussion), and the reputation of journals indexed by Scopus Q1 – Q3. From the results of articles that have passed the filter or selection process according to the specified criteria, the fourth step is to select articles by digging up information such as methods, results, and conclusions according to the 4 (four) existing research

questions. The fifth step is to analyze all related articles by collecting and interpreting the data into the analysis matrix.

3 Result and Discussion

Researchers analyzed the background of user satisfaction and public interest in adopting e-government services. Our strategy is to read (i) each article's title, abstract, location, and conclusion. Then collect information (ii) about the methods, factors influencing satisfaction and interest in using e-government services, and the most widely used analytical models. The sorting process was done thrice, first using the specified keywords (i), generating 383 articles. The Second is selecting articles that match the criteria, including (ii) the type of documents from reputable journals Q1-Q3 With the majority of the 1st quartile issues, according to the data we show in Figure 3, published in the last seven years, and the relevance of the articles to the research questions so that there are 96 articles. The third is selecting based on the information content of each piece that discusses four important questions (iii) using quantitative data and the results of the clause test resulting in 59 articles. The total number of articles that meet the criteria for the second sorting process with a particular discussion of the influence of interest in e-government adoption is 60%. The rest discusses issues related to e-government satisfaction, as much as 40%. Our analysis focuses on the research question, separating the articles most relevant to the method and reported study results. The data we get from each piece is then interpreted in the results section in detail (Fig 3).

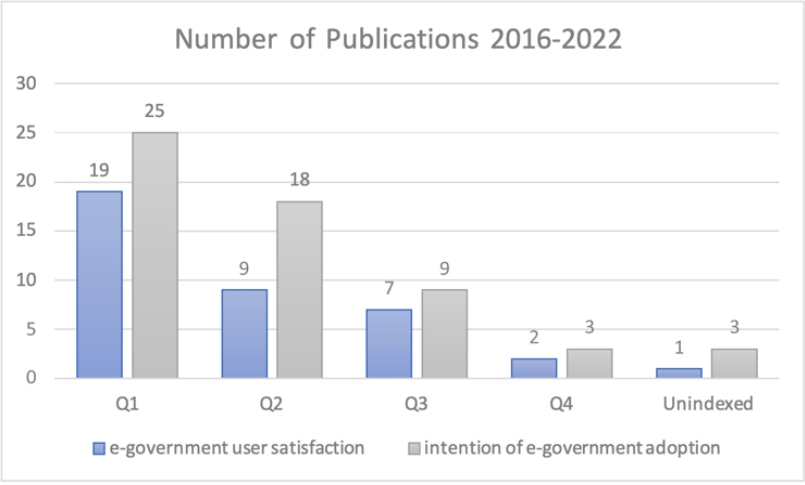

Fig. 3. Search Screening Criteria Journal Article

When viewed based on research locations, studies exploring e-government user satisfaction and user interest in adopting e-government services are mainly carried out in India with nine articles, Saudi Arabia with nine articles, China with seven articles, Jordan with six articles, and Malaysia with five articles. The majority of research was conducted in the West Asia Region; this indicates the seriousness of the government

in the region to develop electronic-based services to increase public satisfaction and trust in the government.

3.1 RQ.1 Research Method Trends

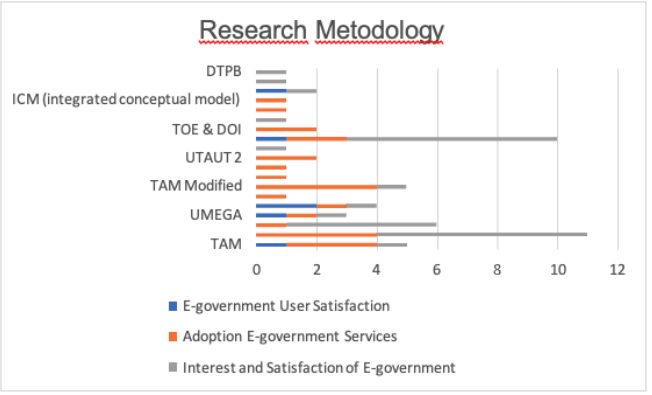

Fig. 4. The Method Used in Quantitative Research

59 articles were specially selected based on the type of quantitative research (Fig 4). There were 47% or 28 publications of technical articles investigating e-government user interest and satisfaction. Studies examining the interest in adopting e-government services are 42% or 25 article publications; the rest specifically read the fulfillment of e-government service users as much as 10% or 6 article publications. According to the results of the data shown in Figure 4, the most widely used models from the three main focuses of this research are the TAM and UTAUT models. Jasmuddin et al. using TAM identify the factors that influence the intention to use e-government service technology affected by social influences [7]. The TAM model has also been modified by adding several variables in the trust and risk model to investigate the effect of citizen adoption on the transformation of electronic services provided by the UK Government and the US Government [8]. While the second model researchers widely use is UTAUT, for example, the results of a recent study conducted by Sabani, which aims to investigate the effect of transparency on adopting e-government services in Indonesia from a community perspective [9].

We also report that the most widely used quantitative and qualitative research analysis methods by researchers since 2017-2022 are survey methods using the Structural Equation Model, according to the data presented in Table 1. Meanwhile, researchers used surveys to collect most of the data collection methods.

Table 1. Qualitative And Quantitative Methods Used

No	Research Method	Number of Publications
1.	Survey	59
2.	Literature Review	14
3.	Case Study	4

4.	Interview		11
5.	Archival Study (MCDM)		2
6.	Analysis Document		6
		Total	96

3.2 Factors Influence User Satisfaction in Using e-Gov Services

Findings based on the results of mapping and grouping the significant influence of satisfaction that affects user satisfaction when using e-government services are grouped in Table 2. Social impact and information quality have been shown to affect service user satisfaction in e-government [10], [11]. These two studies show a relationship between social influence and information quality in explaining the significant effect of user satisfaction on the sustainability of e-government service adoption. It is even explained that e-government requires interaction between users as consumers and the government as e-government service providers. Satisfaction of e-government service users can also be a mediator in explaining the significant effect of interest in e-government service adoption [11], [10], [12]. So, user satisfaction is critical always to be appropriately managed if the government as a service provider wants the success of technology implementation.

Table 2. factors influence of e-Gov Service User satisfaction

No	Factor	Publications	Number of Publications
1	Information Quality	[11], [13], [14]	3
2	Perceived effectiveness	[11], [15]	2
3	Performance Expectancy	[12], [16], [10], [17], [18], [15]	6
4	Social Influence	[11], [17], [19], [10], [15]	5
5	Facilitating Condition	[12], [15]	2
6	Quality of Service	[11], [20]	2
7	Effort Expectancy	[10], [17], [12]	3
8	Attitude	[12]	1
9	Agile accessibility	[21]	1
10	Trust	[21], [15]	2
11	System Quality	[11], [14]	2

3.3 Factor Influence Public Interest in Using e-Gov Services

We categorize user interest in adopting e-government services into two categories of significant influence: direct and indirect. The results of grouping the direct influence factors are presented in Table 3. Meanwhile, the indirect effects are presented in Table 3, where Performance Expectations are the most influential element. This can be the main explanation for identifying success factors for e-based services provided by the government so that people can successfully adopt them. The performance expectancy factor also turns out to be a determining factor in user satisfaction, as

explained earlier in the second research question. Most users of e-services make the mistake of thinking that a new electronic-based system will be inconvenient and useless in improving their performance. However, based on the findings [22], [23], and [17] were able to prove that users in different countries such as Iraq, Africa, and Saudi Arabia have the same perception that a new electronic system can convince all users in these three countries that technological support can improve their performance.

Table 3. Direct Influence Factors For E-Gov Service Adoption

No	Factor	Publication	Number of Publications
1	Age	[24], [25]	2
2	Education Level	[25], [24]	2
3	Performance Expectancy	[22], [20], [16], [17], [10], [23], [26], [27]	8
6	Effort Expectancy	[22], [20], [16], [10], [17], [9], [26]	7
7	Social Influence	[22], [16], [17], [9], [23], [28], [27]	7
8	Facilitating Condition	[22], [20], [19], [9], [26], [29], [27]	7
9	Trust in Technology	[20], [16]	2
10	Citizen Satisfaction	[20], [16], [30]	3
11	Trust	[31], [30]	2
12	Perceived ease of use	[32], [19]	2
13	Attitude	[17], [23]	2
14	Trust in Government	[16], [30], [23], [29]	4
15	Computer Self Efficacy	[30], [23], [33]	3
16	Trust of Internet	[33], [23], [26]	3
17	Trust of the internet	[23], [26], [33]	3
18	Computer self-efficacy	[30], [23], [33]	3

In addition to the effort expectancy, social influence, and facilitating conditions that influence the adoption of existing e-government services, it turns out that community satisfaction plays an essential role in it [16], [30]. Based on these findings, community satisfaction can facilitate the adoption of e-government services in several countries. Citizen satisfaction is another critical construct that can impact citizens' adoption of e-government. In reality, denying that citizens always want satisfaction when interacting with the government is difficult. The level of public trust and satisfaction with electronic-based government services significantly impact the use of e-government applications [30], [23].

Table 4. indirect influence factors for e-gov service adoption

No	Factor	Publication	Amount of Publication
1	Perceived Usefulness	[34], [19], [8]	3
2	Performance Expectancy	[35], [18], [36], [25]	4
4	Subjective Norm	[37], [38]	2
5	Social Influence	[19], [39]	2
6	Effort Expectancy	[25]	1

7	Information Quality	[40], [41]	2

This study found that 2 (two) similar factors influence the adoption of e-government services directly and indirectly. Research conducted by Ibrahim and Zakaria [22], Zeebare et al. [10], and Verkijika and De Wet [23] used performance expectancy as a direct factor that affects e-government adoption. Still, different things were done by Kurfali et al. [36] and Zahid et al. [25], where the performance expectancy factor indirectly affects attitude and intention to adopt e-government services. However, their research all showed the same results on the positive effect of e-government adoption. The second factor is the social influence proven through research by Ibrahim and Zakaria [22] and Almamy [17] as a direct influence on the success of e-government adoption. Likewise, the experiments conducted by Correa et al. [19] and Al-Omairi et al.[39] made social influence an indirect factor, but the results still showed the same; the social influence factor proved influential in adopting e-government services (Table 4).

3.4 **Direction For Future Research**

Essential to be carried out to ensure the sustainability of the use of technology in government services and the development of scientific fields related to e-government. It starts by investigating other factors that have a broader impact on adopting e-government services into a framework, such as considering the influence of gender factors, making it easier to evaluate. We need to consider adding the satisfaction factor. Community as a mediator, and the number of samples used in further research should be more significant. Investigating the differences between the dominant factors in developed and developing countries becomes a challenge for other studies.

4 Conclusion

Based on the findings of studies conducted through published research, it can be seen that performance expectancy and social influence are the most dominant factors influencing citizen satisfaction as users of e-government services. Meanwhile, performance expectancy is the predominant direct factor influencing the adoption of e-government services. Effort expectancy, social influence, and facilitating conditions are the dominant factors that directly influence the adoption of e-government services. As a public service provider, the government can consider the performance expectancy factor as the leading indicator that needs to be appropriately maintained. This factor affects the satisfaction and adoption of e-government services directly and indirectly. Citizen satisfaction is a mediator in the success of e-government services. The government must consider several determinants, such as the quality of services and information provided. Future research can use the results of the study summary we found in designing an e-government service adoption framework to make evaluating the factors easier.

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