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Review

E-Participation Success Factors: A Systematic Literature Review

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Abstract: E-participation which has emerged from the development of electronic government, is a very interesting phenomenon to study today. However, when e-participation was first introduced, various problems arose, such as the reluctance of citizens to use e-participation as a system that was considered suitable to carry out the process of public participation in government. This problem encourages many researchers to find answers and solutions to any problem that arises. This study aims to conduct a systematic review of the diversity of research results related to the key factors for the success of e-participation based on the theoretical basis built by previous researchers. The systematic review was conducted using the Scopus database and the Web of Science (WoS), which are known to have numerous literature sources, especially related to studies on e-participation. In this study, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method was used as a method to collect, evaluate, and synthesize related literature. Based on the results of the systematic reviews and analyses conducted, nine of the most relevant studies were identified. Of the nine studies, six theories were found that are commonly used by researchers, namely TAM, D&M IS success model, TPB, SCT, UTAUT, and TOE. In addition, four factors were found to have the strongest influence on e-participation success, namely behavioral factors, perceived ease of use, perceived benefits, and environment. Deepening these theories and factors will provide valuable knowledge and a solid foundation for researchers and stakeholders in the design and implementation of e-participation systems in the future.

Keywords: E-Participation, Success Factors, Systematic Literature Review, Government, Technology Adoption

Introduction

In the current era of digitalization, governments throughout the world have attempted to implement the e-participation system to encourage citizen involvement in the consultation and decision-making process in the government system (Naranjo-Zolotov *et al*., 2019). In the 2000s, the concept of e-participation was then introduced to promote citizen participation in decision-making and public policy using Information and Communication Technology (ICT) (Le Blanc, 2020). The concept of e-participation sought to emphasize the importance of society's involvement in sustainable development and its role in pressing global issues such as inequality, poverty, climate change, and cooperation between citizens and governments (Naranjo-Zolotov *et al*., 2018a). Through e-participation, interaction, and communication between the government and citizens can run smoothly, allowing the government to obtain valuable information from citizens that provides a solid basis for decision-making and public policy (Sæbø *et al*., 2008; Setyono *et al*., 2019). However, in its development and implementation, e-participation is inextricably linked to various challenges and problems that arise.

Science Publications

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According to the 2019 UNDP report, many countries have made progress, but the implementation of e-participation is still relatively slow (UNDP, 2019). Similarly, (Choi and Song, 2020; Lee and Kim, 2018) found that the use of the e-participation system still needs to be increased in many countries around the world. Then, over the last decade, research discussing e-participation has grown rapidly. However, a systematic literature review of the main factors that determine the success of e-participation has yet to be found, either in the Scopus database or the Web of Science (WoS) as the largest and most trusted database in the world today. Then, the author considers that by identifying the factors determining the success of the e-participation system, it is very important to overcome problems related to the low use of the e-participation system, which is still occurring today. who has studied problem areas related to the field of e-participation through a systematic review, finding that "factors influencing e-participation" are important to investigate further (Quintero-Angulo *et al*., 2020). There are 95% of e-participation success comes from critical success factors, 90.8% from participation factors, 81.8% from model or framework factors, and 86.4% from information technology developments (Shofia *et al*., 2020). However, the problem is that the main factors that can explain the successful use of e-participation have yet to be well identified (Alarabiat *et al*., 2017; Panopoulou *et al*., 2021). Therefore, this gap can be a strong basis for the need to identify the key success factors of e-participation systems through a systematic literature review.

The primary objective of this research is to conduct a comprehensive evaluation of existing literature on the factors that contribute to the success of e-participation. Another aim is to determine the theoretical framework employed by researchers when investigating the success of e-participation. Thus, this evaluation encompasses certain research inquiries, namely:

- **RQ1:** What are the theoretical bases used in e-participation studies?
- **RQ2:** What are the determining factors for the success of e-participation based on the theoretical basis used?

Based on the objectives and questions of this research, all information related to the study of the theoretical basis and factors determining the success of e-participation from various perspectives in the fields of science and knowledge will be collected and analyzed carefully. Then, the information obtained will help systematize research and identify existing research gaps so that future researchers can determine the direction of their research.

Materials and Methods

Research Design

This study was carried out using a literature review approach, which is generally known as an approach to look for trends and differences in research results that have been published in journals in certain fields of study. Then, the literature review method used in this research is a Systematic Literature Review (SLR). Using the SLR method, researchers can collect and evaluate evidence found from various sources such as scientific journals, and then the findings undergo a synthesis process to answer research questions (Lame, 2019). The SLR method uses a structured and protocol-based approach to identify a pattern in research using the scientific method (Shaikh *et al*., 2021). Moreover, the main purpose of this systematic literature review is to find an empirical answer to the research question through a rigorous and transparent method (Paez, 2017).

Resources

The literature review in this study was taken from the world's largest database sources, namely Scopus and WoS. The Scopus database is known as the world's leading provider of scientific references, owned by the publisher Elsevier. In 2004, Elsevier set up Scopus and then quickly established itself as a very valuable reference source for scientific articles in various fields of study (Renjith *et al*., 2021). Scopus is now also recognized as the largest database of abstracts and citations in the world (Chi, 2013; Shaffril *et al*., 2018). Then, Scopus offers services to assess whether a journal has a significant impact factor or not. In addition, information about a journal's impact factors can be accessed via the SCImago Journal and Country Rank (SJR) website (https://www.scimagojr.com). Furthermore, the weighted average value of the number of citations is determined and presented each year via the SJR, and the higher the weighted value, the higher the prestige of the journal. According to the information on the Scopus website (https://www.scopus.com), Scopus currently includes 22,000 titles from more than 5,000 international publishers. Scopus also provides a very comprehensive overview and has captured worldwide research discoveries from a variety of specific subject areas such as science, technology, social sciences, health, arts, and humanities.

The WoS database, originally called the Web of Knowledge (WoK), is also a database known for providing scientific references and has developed into one of the largest and leading global reference databases since 1960. This is due to its comprehensive coverage of scientific literature and its ability to provide detailed citation analysis (Zhu and Liu, 2020).

WoS is the oldest scientific reference provider among many other scientific databases (Singh *et al*., 2021a). Then, WoS became the most selective database among other databases (Singh *et al*., 2021b). These two databases (Scopus and WoS) can become reliable databases in systematic literature reviews. Based on this, it will be seen how these two databases summarize all the literature related to this research.

Identification

In the identification stage, a comprehensive search is conducted to find synonyms, related terms, and variations of the major keywords that are linked to the success criteria of e-participation. This identification procedure utilizes an online thesaurus, keywords derived from previous research, keywords obtained from the Scopus and WoS databases, and keywords recommended by experts. Then, the development of the most frequently used keywords was carried out to provide more choices in the database that had been selected to search for related literature to be reviewed (Shaffril *et al*., 2020). After carrying out development, the author succeeded in enriching keywords and developing a complete search string based on boolean operator functions (OR AND), phrase search, truncation, wild cards, and field codes in two databases, namely Scopus and Web of Science (Table 1).

Using the keywords that have been developed, a document search in the Scopus and WoS databases is carried out. Then, the findings will undergo a screening and eligibility process based on the specified criteria.

Inclusion and Exclusion Criteria

During this procedure, specific criteria for inclusion and exclusion are employed to guarantee that only relevant papers are considered for the review. Selection criteria are often determined by the research question and review objectives and can be justified based on content, techniques, or publication quality (Kuckertz and Block, 2021). Firstly, only journal articles and proceedings were chosen as the form of literature, whereas review articles, books, book series, and theses were deliberately eliminated. Second, to mitigate any potential issues with translation, the search results were specifically limited to articles that were published in English and excluded any publications in languages other than English. Third, the period chosen was between 2013 and 2023. This period is considered sufficient to see the evolution of research and related publications (Shaffril *et al*., 2018). Then, because this study focuses on e-participation, articles outside this study will be excluded (Table 2).

Table 1: The search strings

Database	Search string
Scopus	TITLE-ABS-KEY (("e-participation" OR "eParticipation" OR "electronic participation" OR "e-participate" OR "digital participation" OR "online participation" OR "electronic engagement" OR "internet-based participation") AND ("success factors" OR "key success factors" OR "main factor of success"))
Web of Science (WoS)	TS= (("e-participation" OR "eParticipation" OR "electronic participation" OR "e-participate" OR "digital participation" OR "online participation" OR "electronic engagement" OR "internet-based participation") AND ("success factors" OR "key success factors" OR "main factor of success"))

Source: Prepared by the author (2024)

Table 2: The inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Source-type	Journals and conference proceeding	Journals of systematic review, conference review, book, book series, thesis, and not any other document
Language	English	Non-English
Timeline	From 2013-2023	< 2013
Topic	e-participation	non-e-participation

Source: Prepared by the author (2024)

Screening and Eligibility Assessment

The screening and eligibility process aims to ensure that the eligibility criteria are applied consistently and impartially. This aims to reduce the risk of errors or bias in the synthesis (Frampton *et al*., 2017). At this stage, a screening and feasibility assessment are conducted on articles searched for and found from the Scopus and WoS databases on October 22, 2023. The screening stage of this systematic literature review is carried out systematically and using pre-defined eligibility criteria. This feasibility stage is designed to ensure that each article selected is relevant to the systematic literature review to be conducted. The defined eligibility criteria include the suitability of the titles, abstracts, keywords, and the completeness of the content of the articles that relate to the topic or area of the study "e-participation" and "critical success factors".

Prisma Flow Diagram

The use of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method was carried out as an effort to identify, screen, assess eligibility, collect data for analysis, and report it in narrative format (Ismail *et al*., 2021; Peixoto *et al*., 2021). PRISMA as a reporting method in systematic literature review is used to communicate the findings appropriately and efficiently (Rachman and Napitupulu, 2020). PRISMA with a systematic stage can objectively examine the findings of study data (Rehman *et al*., 2020). Figure 1 shows how the stages are performed in PRISMA.

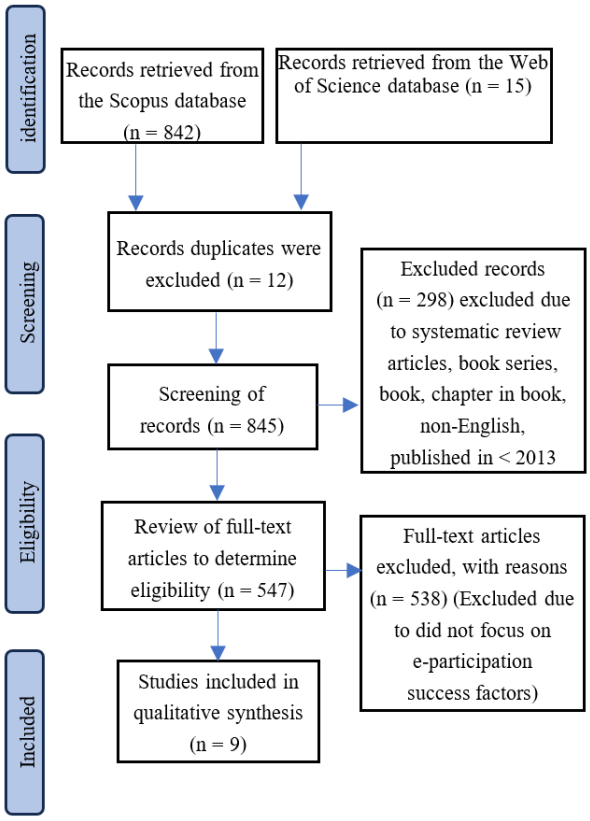


Fig. 1: The study's flow diagram

In addition, based on the identification stage in PRISMA, 842 documents were found from the Scopus database and 15 documents from the WoS database, resulting in a total of 857 documents. Then, in the screening stage, the process of removing duplicate documents was carried out and 12 identical documents were found from both database sources (Scopus and WoS) so that 845 documents remained. Using the 845 documents remaining from the identification process, an exclusion process was carried out based on predetermined criteria (Table 2). Document exclusion includes criteria (literature type, language, timeline, and topic). The excluded literature types are (journals systematic reviews, conference reviews, books, book chapters, theses, and not any other document). Then, only documents in English will be taken and the document publication period is from 2013-2023 and the topic focuses on documents that discuss e-participation. So, from the results of this exception, the remaining 547 documents were checked for eligibility.

Of the 547 documents that were checked for suitability based on the focus of the study on "factors determining the success of e-participation", there were 538 documents that were not included in the category within the focus of this Source: Prepared by the author (2024) study. Examples of studies not included in this literature study include e-government, e-planning, e-petition, e-complaint, e-consultation, and others. So, in the results of this PRISMA process, nine documents were found that were related and relevant to the current literature review.

Results and Discussion

Theoretical Basis Used in E-Participation

This research has been carried out step by step, resulting in nine selected article documents based on the focus of the study. The nine documents were carefully analyzed and then mapped based on the theoretical basis used by each researcher. Based on this review, there are six theoretical bases used by researchers in the focus of e-participation studies, namely: Technology Acceptance Model (TAM), DeLone and McLean IS success model (D&M), Theory of Planned Behavior (TPB), Social Cognitive Theory (SCT), Unified Theory of Acceptance and Use of Technology (UTAUT) and Technology Organization Environment (TOE). Then, of the six theoretical bases researchers use, five theories or models are most frequently used: TAM, D&M, TPB, SCT, and UTAUT (Table 3).

TAM

The TAM is a theoretical framework designed to elucidate the determinants that impact the adoption and acceptance of information technology by users. Fred Davis initially proposed this theory in 1986 and then expanded upon it in 1989. The primary factors that TAM examines in relation to technology acceptance are Perceived Effectiveness (PU) and Perceived Ease of Use (PEU). TAM asserts that these two aspects have the potential to impact an individual's intention to utilize the system, hence influencing the actual usage of the system (Davis, 1989).

Table 3: The author's use of a theoretical basis

No.	Theoretical basis	Findings
1	TAM	(Panopoulou *et al*., 2021; Alarabiat *et al*., 2021; Rogeleonick *et al*., 2020)
2	D&M IS success model	(Pérez-Espés *et al*., 2013; Abdulkareem *et al*., 2022)
3	TPB	(Alarabiat *et al*., 2017; Alarabiat *et al*., 2021)
4	SCT	(Hidayanto *et al*., 2017a-b)
5	UTAUT	(Alarabiat *et al*., 2017; Panopoulou *et al*., 2021)
6	TOE	(Adam and Dzang Alhassan, 2022)

Source: Prepared by the author (2024)

Model D&M

DeLone and McLean's information systems success model, often referred to as the D&M model, is a comprehensive framework that provides specific parameters for evaluating the effectiveness and success of an information system (Delone and McLean, 1992). This model was first introduced in 1992 by William DeLone and Ephraim McLean as a framework for evaluating the success of an information system. Later, Urbach and Müller also confirmed that the D&M model provides a comprehensive definition and multidimensional measurement for evaluating information systems (Urbach and Müller, 2012). Currently, the D&M model revised in 2003 consists of components such as (i) Information Quality (IQ), (ii) System Quality (SyQ), (iii) Service Quality (SeQ), (iv) User Satisfaction (US), (v) Intention To Use/Use (ITU/U) and (vi) Net Benefit (NB) (DeLone and McLean, 2003). The most important improvement of this model is the addition of service quality factors (Al-Kofahi *et al*., 2020). Furthermore, these six factors of the D&M model have become characteristics and key factors for evaluating the success of an information system (Petter *et al*., 2008; Van Der Meijden *et al*., 2003).

TPB

The Theory of Planned Behaviour (TPB), introduced by Ajzen (1985), is a theory used to assess individual behavior and intentions in a variety of contexts. The TPB theory was revised in 1991 and this was based on the weaknesses that had been observed in the previous theory, namely the Theory of Reasoned Action (TRA). The main difference between TPB and TRA lies in the addition of a third factor that can determine behavioral intentions, namely "perceived behavioral control". Thus, TPB theory currently has three main factors, namely (i) Attitudes, (ii) Subjective norms, and (iii) Perceived behavioral control, with these three factors together forming individual behavioral intentions (Ajzen, 1985). Then, the theory also provided an invaluable conceptual framework for addressing the various social behaviors that people form (Ajzen, 1991). Icek Ajzen argues that the higher the factors of attitude, subjective norms, and perceived behavioral control, the stronger a person's intention to perform a particular action (Ajzen, 2006). On this basis, TPB theory can explain and predict the behavioral intentions of everyone under different conditions and circumstances.

SCT

The existence of Social Cognitive Theory (SCT) in 1986 was an attempt to refine Albert Bandura's Social Learning Theory (SLT) from the 1960s. This revised SCT theory has a theoretical framework consisting of "Person (P)", "Behaviour (B)" and "Environment (E)". This SCT framework aims to understand, predict, and modify human behavior as well as categorize human behavior because of the interaction of personal, behavioral, and environmental factors (Bandura, 1978). This theory states that learning takes place in a social framework characterized by dynamic and mutually influencing interactions between individuals, the environment, and their activities (Phipps *et al*., 2013). This theory has been widely used in various fields of study such as education, health behavior changes, and personal growth, and is also increasingly being applied in the field of technology adoption.

UTAUT

In 2003, Viswanath Venkatesh developed a theory called the Unified Theory of Acceptance and Use of Technology (UTAUT). This UTAUT theory provides a structured framework for understanding individual intentions in the adoption and use of technology (Venkatesh *et al*., 2012). This theory consists of two main dependent factors, namely "Behavioural Intention (BI)" and "Use Behavior (UB)" and then the main independent factors, namely "Performance Expectancy (PE)", "Effort Expectancy (EE)", "Social Influence (SI)", "Facilitating Conditions (FC)", "Gender (G)", "Age (A)", "Experience (E)" and "Voluntariness of Use (VoU)" (Venkatesh *et al*., 2003). This theory states that various factors can influence the process of technology adoption, such as psychological, social, and situational factors.

TOE

The Technology Organization Environmental framework (TOE) was developed. TOE theory illustrates how Technology (T), Organization (O), and Environment (E) can influence technology adoption and implementation. The framework is also known for providing a holistic view of technology adoption at the organizational level. According to Baker (2012), this theory has proven useful in understanding the complex interactions between technology, organizations, and the environment. Based on this, TOE can help researchers, academics and practitioners understand the dynamics and complexities involved in making decisions about technology adoption in organizations.

Based on the above discussion, it can be understood that the field of e-participation study can be built from various theories that form the basis of a scientific field such as information technology, psychology, management, and social sciences. During their development, researchers have tried to adopt all these theoretical foundations into the context of information systems research or e-participation, and they have been shown to contribute to the development of science.

However, in its development, all these theoretical bases have been tried to be adopted by researchers into the

context of information systems research or e-participation and have been proven to contribute to the development of science and knowledge. The findings of the theoretical basis and determining factors for the success of e-participation from nine related article documents can be seen in the summary of Fig. 2. The figure displays nine publications, each employing both common and distinct theoretical frameworks, along with elements that are deemed influential in determining the success of the e-participation system. Based on Fig. 2, we present the findings of this study.

Factors in E-Participation

Furthermore, based on the nine documents identified, 34 factors were found in the e-participation research. Among them, 20 factors come from existing theoretical bases or models and 14 more factors come from the results of research developments. Out of the 34 characteristics discovered, we selected four (behavior, perceived ease of use, perceived usefulness, and environment) for discussion, as they are the most prominently utilized in e-participation research.

Behavior (B) is the factor most frequently used compared to other factors in e-participation research. Of the nine documents identified, four articles used behavioral factors. Behavior is a factor that originates from the theoretical basis of TPB and SCT. TPB proposes that individual intention influences behavioral factors, which are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 2019). Meanwhile, in SCT, behavioral factors are influenced by two other factors: Environmental and personal factors (Bandura, 2001; 1991).

Based on this, there are differences in factors that influence behavior in TPB and influence behavior in SCT.

TPB focuses on attitudes, subjective norms, and perceived behavioral control, while SCT highlights observational learning, self-efficacy, and reciprocal determinism as critical factors influencing behavior. Therefore, behavioral factors in e-participation are significant to understanding how individuals interact with the digital platforms or systems available.

Perceived Ease of Use (PEU) is a factor that underlies TAM theory, and this factor is seen as very important in influencing technology adoption. Based on the identification results, three articles use the PEU factor in e-participation research. Then TAM defines the PEU factor, related to the extent to which individuals believe that using a particular system will be free from effort (Davis, 1989). Based on this, the PEU factor is closely related to attitudes and behavioral intentions toward using technology, so that in the end it will find real users. Therefore, the PEU factor in TAM theory greatly influences the intention to use the e-participation system because they get benefits from it.

THEORETICAL BASIS AND FACTORS USED IN E-PARTICIPATION

Author/ Year	D & M				TPB					SCT			TAM			TOE			UTAUT														
	F1	F2	F3	F4	F1	F2	F3	F4	F5	F1	F2	F3	F1	F2	F3	F1	F2	F3	F1	F2	F3	F4	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14
	IQ	SQ	SvQ	US	ATT	SN	PBC	I	B	P	E	B	PU	PEU	BIU	T	O	E	PE	EE	FC	SI	Op	Inn	Dis	Ins	TG	TT	PV	CT	PE	TSE	IGP	PFC	IM	C
Abdulkareem et al. (2022) [54]	√	√	√	√																							√	√								
Adam et al. (2022) [38].																√	√	√																		
Panopoulou et al. (2021) [30]													√	√	√							√										√	√	√	√	
Alarabiat et al. (2021) [31]					√	√	√	√	√				√	√																						√
Rogeleonick et al. (2020) [32]													√	√	√																					
Alarabiat et al. (2017) [35]					√	√	√	√	√												√							√	√	√						
Khoirunnida et al. (2017) [36]										√	√	√											√	√	√	√										
Khoirunnida et al. (2017) [37]										√	√	√																								
Pérez-Espés et al. (2013) [33]	√	√	√																																	

F= Factor
IQ = Information Quality
SQ = System Quality
SvQ = Service Quality
US = User Satisfaction
ATT = Attitude
SN = Subjective Norm
PBC = Perceived Behavioral Control
I = Intention
B = Behavior

P = Personal
E = Enviroment
PU = Perceived Usefulness
PEU = Perceived Ease of Use
BIU = Behavioral Intention to Use
T = Technology
O = Organization
PE = Performance Expectancy
EE = Effort Expectancy
FC = Facilitating Condition
SI = Social Influencing

Op = Optimism
Inn = Innovativeness
Dis = Discomfort
Ins = Insecurity
TG = Trust in Government
TT = Trust in Technology
PV = Perceived Value
CT = Citizen Trust

PE = Participation Efficacy
TSE = Technological Self-efficacy
IGP = Integration to Governmental Processes
PFC = Perceived Facilitating Conditions
IM = Intrinsic Motivation
C = Compatibility

Fig. 2: The findings

Perceived Usefulness (PU) stands as a key element within the TAM. This factor encompasses the degree to which an individual believes that utilizing a specific system will enhance their job performance or streamline the completion of tasks (Davis, 1989). Essentially, PU reflects an individual's subjective evaluation of the system's utility and the advantages it brings. Consequently, it can be deduced that an individual's subjective perception is intricately linked to their intentions. As indicated by Aswar *et al*. (2022), both PU and PEU bear a substantial relationship to an individual's intention to adopt a system. Thus, the combined impact of PU and PEU significantly shapes individuals' intentions to engage with the e-participation system.

Environment (E) is an important factor in Social Cognitive Theory (SCT) and the Technology-Organization-Environment (TOE) theoretical framework. Then, SCT and TOE recognize the significant influence of environmental factors on behavior. In SCT, the environment operates at the personal level and environmental factors in TOE operate at the organizational level. Despite sharing common factors, the environmental considerations within SCT differ from those in TOE. In SCT, behavioral and personal factors wield influence over environmental aspects, with a dynamic interplay between these factors (Bandura, 1991). Specifically, the environmental factors within SCT encompass the social and physical contexts in which individuals operate. Conversely, in TOE, technological and organizational factors exert a reciprocal influence on environmental factors, creating a complex web of mutual impact (Baker, 2012). However, both SCT and TOE affirm that these environmental factors, while influenced differently, collectively impact and shape the use of information systems, such as e-participation platforms (Fig. 3).

Based on the four factors discussed, we see that behavioral factors, perceived ease of use, perceived usefulness, and environmental factors significantly influence an individual's intention to use a system. In this case, it means that the stronger a person's intentions, the more likely it is for everyone to use the information system (e-participation) that has been provided. Then, intention can be interpreted generally as an impulse within an individual to produce an action and behavior.

Based on this, the intention is a strong determining factor in influencing actual participation and maintaining activities using the e-participation system (Choi and Song, 2020). However, there are many countries in the world where e-Participation levels are still low and especially in developing countries, there are at least 51 countries that have the lowest E-Participation Index (EPI) scores in the world (UNDESA, 2022).

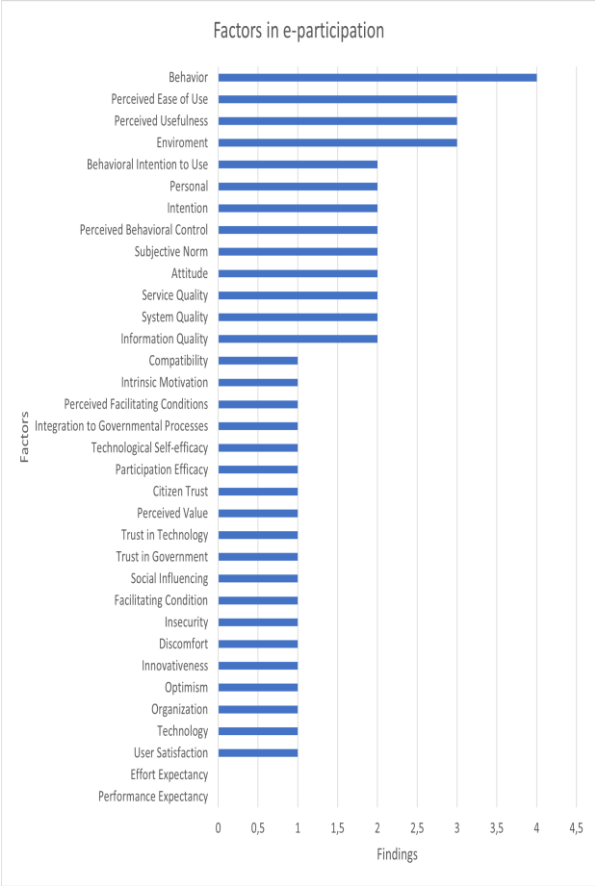


Fig. 3: Factors in e-participation

The issue of the low intention of citizens in the world to use e-participation is caused by various influencing factors. Starting from the factors "information quality", "system quality" and "service quality" which also correlate with the "user satisfaction" factor in the use of e-participation (Rana *et al*., 2013; Naranjo-Zolotov *et al*., 2019; 2018b; Zolotov *et al*., 2018). Then, the influence of social and cultural factors also plays a role in increasing citizens' motivation and intention to use the e-participation system (Alarabiat, 2016; Nguyen and Süß, 2023). Cultural differences are also believed to be a factor that needs to be considered in the use of e-participation in the future. As is known, each country has a different culture (Kamau and Mbirithi, 2021; Steers *et al*., 2008; Steinbach *et al*., 2019). Cultural factors also have a close relationship to behavioral factors, where individual behavior in a culture is influenced by social norms accepted by people who are considered important to them (Alharbi *et al*., 2016). Therefore, there is a great need to study the key factors that can contribute to the success of e-participation systems. Thus, research findings in the form of theories and factors that have been identified from this literature review have the potential to be useful for the sustainability of the e-participation system in the future.

Conclusion

Based on this systematic literature review, six theoretical bases were found that are commonly used in e-participation research, namely TAM, D&M IS success model, TPB, SCT, UTAUT, and TOE. Then, each of these theoretical bases has constructs or factors as a theoretical framework used to view the effectiveness and success of an information system. In this review, there are 34 factors that researchers use to test the success of information systems, which in this context are e-participation systems. However, of these 34, 4 factors are most widely used to test the e-participation system's success: Behavior, perceived ease of use, perceived usefulness, and environment. These four factors are also discussed in this research, and we assess that these four factors are oriented towards individual intention factors, which will be an essential factor in the success of information systems in general and e-participation systems in particular. We consider these 4 factors worthy of consideration as a theoretical framework in future research on the success of e-participation systems.

However, this does not mean that other factors such as behavioral intention to use, personal, perceived behavioral control, attitude, subjective norms, and other factors are not worthy of being used as determining factors for the success of the e-participation system. However, due to limitations, we will not discuss these other factors in detail in this literature review. Therefore, future researchers need to review these other factors. Then, combining one theoretical basis with another, one factor with another can also create a framework or model of e-participation success as a basis for future research.

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Author's Contributions

Elgamar Syam: Contributed to conceptualizing the research idea, participated in data collection, laboratory sample testing, manuscript write-up, and data analysis, and participated in research write-up, Authors gave final approval of the version to be submitted and any revised version.

Alawiyah Abd Wahab: Contributed to conceptualizing the research idea, participated in data collection, performed data analysis, and participated in research write-up and proofreading of the manuscript, Authors gave final approval of the version to be submitted and any revisions.

Abdullah Husin: Contribute to designing the research plan and organizing the study conceptualized the research idea and participated in the manuscript write-up, Authors gave final approval of the version to be submitted and any revised version.

Ethics

This article is original and contains unpublished material. The corresponding author confirms that all of the other authors have read and approved the manuscript and no ethical issues involved.

Conflict of Interest

The authors declare that there is no conflict of interest.

Reference

Abdulkareem, A. K., Abdulkareem, Z. J., Ishola, A. A., & Akindele, I. T. (2022). Does e-government impact e-participation? The influence of trust in e-government. *International Review of Public Administration*, *27*(2), 91-110 https://doi.org/10.1080/12294659.2022.2071540

Adam, I. O., & Dzang Alhassan, M. (2022). The mediating role of ICT regulation on the effects of ICT access and ICT use on e-participation: Evidence from structural equation modeling and necessary condition analysis. *African Journal of Science, Technology, Innovation and Development*, *14*(5), 1161-1172. https://doi.org/10.1080/20421338.2021.1937815

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control: From cognition to behavior* (pp. 11-39). Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-t

Ajzen, I. (2006). Constructing a theory of planned behavior questionnaire.

Ajzen, I. (2019). Theory of planned behavior with background factors. https://people.umass.edu/aizen/tpb.background.html

Al-Kofahi, M. K., Hassan, H., Mohamad, R., Intan, T. P., & Com, M. (2020). Information systems success model: A review of the literature. *International Journal of Innovation, Creativity and Change*, *12*(8). https://www.ijicc.net/images/vol12/iss8/12839_Kofahi_2020_E_R.pdf

Alarabiat, A., Soares, D., & Estevez, E. (2021). Determinants of citizens' intention to engage in government-led electronic participation initiatives through Facebook. *Government Information Quarterly*, *38*(1), 101537. https://doi.org/10.1016/j.giq.2020.101537

Alarabiat, A. (2016). Electronic participation through social media: Citizens' adoption factors at local government level. *Proceedings of the 9th International Conference on Theory and Practice of Electronic Governance, ICEGOV*. pp: 424–427. https://doi.org/10.1145/2910019.2910090

Alarabiat, A., Sá Soares, D., & Estevez, E. (2017). Predicting citizens acceptance of government-led e-participation initiatives through social media: A theoretical model. *Proceedings of the 50th Hawaii International Conference on System Sciences*. https://doi.org/10.24251/hicss.2017.345

Alharbi, A., Kang, K., & Sohaib, O. (2016). Citizens Engagement in E-participation on E-government Websites through SWAT Model: A Case of Saudi Arabia. *20th Pacific Asia Conference on Information Systems (PACIS 2016*. https://www.researchgate.net/publication/314210054 Citizens_Engagement_in_E-participation_on_E-government_Websites_through_SWAT_Model_A_ Case_of_Saudi_Arabia

Aswar, K., Ermawati, E., Juliyanto, W., Andreas, A., & Wiguna, M. (2022). Adoption of e-government by Indonesian state universities: An application of technology acceptance model. *Problems and Perspectives in Management*, *20*(1), 396-406. http://dx.doi.org/10.21511/ppm.20(1).2022.32

Baker, J. (2012). The Technology–Organization–Environment Framework. In: Dwivedi, Y., Wade, M., Schneberger, S. (eds) Information Systems Theory. Integrated Series in Information Systems, vol *28*. Springer, New York, NY. pp: 231-245. https://doi.org/10.1007/978-1-4419-6108-2_12

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*(1), 1-26. https://doi.org/10.1146/annurev.psych.52.1.1

Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. *Advances in Behaviour Research and Therapy*, *1*(4), 139-161. https://doi.org/10.1016/0146-6402(78)90002-4

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, *50*(2), 248-287. https://doi.org/10.1016/0749-5978(91)90022-L

Chi, Y. (2013). Global trends in medical journal publishing. *Journal of Korean Medical Science*, *28*(8), 1120-1121. https://doi.org/10.3346/jkms.2013.28.8.1120

Choi, J. C., & Song, C. (2020). Factors explaining why some citizens engage in E-participation, while others do not. *Government Information Quarterly*, *37*(4), 101524. https://doi.org/10.1016/j.giq.2020.101524

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319-340. https://doi.org/10.2307/249008

DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, *3*(1), 60-95. https://doi.org/10.1287/isre.3.1.60

DeLone, W., & McLean, E. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, *19*(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748

Frampton, G. K., Livoreil, B., & Petrokofsky, G. (2017). Eligibility screening in evidence synthesis of environmental management topics. *Environmental Evidence*, *6*(1), 1–13. https://doi.org/10.1186/s13750-017-0102-2

Hidayanto, A. N., Purwandari, B., Kartika, D., & Kosandi, M. (2017a, October). Factors influencing citizen's intention to participate electronically: The perspectives of social cognitive theory and e-government service quality. In *2017 International Conference on Advanced Computer Science and Information Systems (ICACSIS)* (pp. 166-171). IEEE. https://doi.org/10.1109/ICACSIS.2017.8355028

Hidayanto, A. N., Purwandari, B., Yuliansyah, R., & Kosandi, M. (2017b, November). Factors influencing citizen's intention to participate in e-participation: Integrating Technology Readiness on Social Cognitive Theory. In *2017 2nd International Conference on Informatics and Computing (ICIC)* (pp. 1-7). IEEE. https://doi.org/10.1109/IAC.2017.8280635

Ismail, M. Z., Ramly, Z. M., & Hamid, R. A. (2021). Systematic review of cost overrun research in the developed and developing countries. *International Journal of Sustainable Construction Engineering and Technology*, *12*(1), 196–211. https://doi.org/10.30880/ijscet.2021.12.01.020

Kamau, S. K., & Mbirithi, D. M. (2021). Citizen Participation in the Formulation of Public Policy in Mombasa County, Kenya. *International Journal of Current Aspects*, *5*(4), 90–107. https://doi.org/10.35942/ijcab.v5i4.213

Kuckertz, A., & Block, J. (2021). Reviewing systematic literature reviews: ten key questions and criteria for reviewers. *Management Review Quarterly*, *71*, 519-524. https://doi.org/10.1007/s11301-021-00228-7

Lame, G. (2019, July). Systematic literature reviews: An introduction. In *Proceedings of the Design Society: international conference on Engineering Design* (Vol. *1*, No. 1, pp. 1633-1642). Cambridge University Press. https://doi.org/10.1017/dsi.2019.169

Le Blanc, D. (2020). E-participation: A quick overview of recent qualitative trends. https://www.un.org/development/desa/CONTENTS

Lee, J., & Kim, S. (2018). Citizens'e-participation on agenda setting in local governance: Do individual social capital and e-participation management matter?. *Public Management Review*, *20*(6), 873-895. https://doi.org/10.1080/14719037.2017.1340507

Naranjo-Zolotov, M., Oliveira, T., & Casteleyn, S. (2018a). Citizens' intention to use and recommend e-participation: Drawing upon UTAUT and citizen empowerment. *Information Technology & People*, *32*(2), 364-386. https://doi.org/10.1108/ITP-08-2017-0257

Naranjo-Zolotov, M., Oliveira, T., & Casteleyn, S. (2018b). E-participation adoption models research in the last 17 years: A weight and meta-analytical review. *Computers in Human Behavior*, *81*, 350–365. https://doi.org/10.1016/j.chb.2017.12.031

Naranjo-Zolotov, M., Oliveira, T., Casteleyn, S., & Irani, Z. (2019). Continuous usage of e-participation: The role of the sense of virtual community. *Government Information Quarterly*, *36*(3), 536–545. https://doi.org/10.1016/j.giq.2019.05.009

Nguyen, P., & Süß, S. (2023). Local Government Employees' Technology Acceptance of E-Participation: An Empirical Analysis Using Structural Equation Modeling. *Administration & Society*, *55*(10), 1839-1865. https://doi.org/10.1177/00953997231198847

Paez, A. (2017). Gray literature: An important resource in systematic reviews. *Journal of Evidence-Based Medicine*, *10*(3), 233-240. https://doi.org/10.1111/jebm.12266

Panopoulou, E., Tambouris, E., & Tarabanis, K. (2021). An eParticipation Acceptance Model. *IEEE Transactions on Emerging Topics in Computing*, *9*(1), 188–199. https://doi.org/10.1109/TETC.2018.2861426

Peixoto, B., Pinto, R., Melo, M., Cabral, L., & Bessa, M. (2021). Immersive virtual reality for foreign language education: A PRISMA systematic review. *IEEE Access*, *9*, 48952-48962. https://doi.org/10.1109/ACCESS.2021.3068858

Pérez-Espés, C., Jiménez, J. M. M., & Wimmer, M. A. (2013). Evaluating the efficacy of e-participation experiences. Electronic Government and Electronic Participation - Joint Proceedings of Ongoing Research of IFIP EGOV and IFIP ePart 2040. pp: 250-257. https://dl.gi.de/items/47b0a743-c89d-4bbb-960d-3629ec00a71f

Petter, S., DeLone, W., & McLean, E. (2008). Measuring information systems success: Models, dimensions, measures, and interrelationships. *European Journal of Information Systems*, *17*(3), 236–263. https://doi.org/10.1057/ejis.2008.15

Phipps, M., Ozanne, L. K., Luchs, M. G., Subrahmanyan, S., Kapitan, S., Catlin, J. R., Gau, R., Naylor, R. W., Rose, R. L., Simpson, B., & Weaver, T. (2013). Understanding the inherent complexity of sustainable consumption: A social cognitive framework. *Journal of Business Research*, *66*(8), 1227–1234. https://doi.org/10.1016/j.jbusres.2012.08.016

Quintero-Angulo, R. A. D., Sánchez-Torres, J. M., & Cardona-Román, D. M. (2020, September). Problem areas in e-Participation: A systematic review. In *Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance* (pp. 544-550). https://doi.org/10.1145/3428502.3428584

Rachman, T., & Napitupulu, D. (2020). The quality of public participation in e-government through citizen acceptance factors. *International Journal of Innovation, Creativity and Change*, *12*(5), 340-351. https://www.ijicc.net/images/vol12/iss5/12526_Rachman_2020_E_R.pdf

Rehman, Z. U., Baharun, R., & Salleh, N. Z. M. (2020). Antecedents, consequences, and reducers of perceived risk in social media: A systematic literature review and directions for further research. *Psychology and Marketing*, *37*(1), 74–86. https://doi.org/10.1002/mar.21281

Rana, N. P., Dwivedi, Y. K., & Williams, M. D. (2013). Evaluating alternative theoretical models for examining citizen-centric adoption of e-government. *Transforming Government: People, Process and Policy*, *7*(1), 27-49. https://doi.org/10.1108/17506161311308151

Renjith, V. R. & Vijayan, S. S. (2021). Web of Science (WoS) Indexed Library and Information Science (LIS) *Journals in Scopus: An Analysis.* https://doi.org/10.2139/ssrn.3954318

Rogeleonick, A., Purwandari, B., Satria, R., Purwaningsih, M., & Kumaralalita, L. (2020, February). Factors Influencing the Community's Intention to Participate in Public Services: The Perspective of the Ministry of Education and Culture. In *Proceedings of the 2020 the 6th International Conference on E-Business and Applications* (pp. 79-84). https://doi.org/10.1145/3387263.3387285

Sæbø, Ø., Rose, J., & Flak, L. S. (2008). The shape of eParticipation: Characterizing an emerging research area. *Government Information Quarterly*, *25*(3), 400-428. https://doi.org/10.1016/j.giq.2007.04.007

Setyono, A., Handoko, L. B., Salam, A., Noersasangko, E., & Waluyo, D. E. (2019, September). Development of mobile e-participation system to enhance e-government performance. In *2019 International Seminar on Application for Technology of Information and Communication (iSemantic)* (pp. 288-293). IEEE. https://doi.org/10.1109/ISEMANTIC.2019.8884221

Shaffril, H. A. M., Krauss, S. E., & Samsuddin, S. F. (2018). A systematic review on Asian's farmers' adaptation practices towards climate change. *Science of the Total Environment*, *644*, 683–695. https://doi.org/10.1016/j.scitotenv.2018.06.349

Shaikh, A. K., Ahmad, N., Khan, I., & Ali, S. (2021). E-participation within e-government: A bibliometric based systematic literature review. *International Journal of Organizational Analysis*, *17*(4), 15–39. https://doi.org/10.4018/IJEGR.2021100102

Shaffril, H. A. M., Ahmad, N., Samsuddin, S. F., Samah, A. A., & Hamdan, M. E. (2020). Systematic literature review on adaptation towards climate change impacts among indigenous people in the Asia Pacific regions. *Journal of Cleaner Production*, *258*, 120595. https://doi.org/10.1016/j.jclepro.2020.120595

Shofia, S., Hidayanto, A. N., & Prabowo, H. (2020). Critical Succsess Factors E-Participation for E-Government. *International Journal of Recent Technology and Engineering*, *8*(5), 4010–4016. https://doi.org/10.35940/ijrte.e6246.018520

Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021a). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, *126*, 5113-5142. https://doi.org/10.1007/s11192-021-03948-5

Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021b). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, *126*(6), 5113–5142. https://doi.org/10.1007/s11192-021-03948-5

Steers, R. M., Meyer, A. D., & Sanchez-Runde, C. J. (2008). National culture and the adoption of new technologies. *Journal of World Business*, *43*(3), 255–260. https://doi.org/10.1016/j.jwb.2008.03.007

Steinbach, M., Sieweke, J., & Süß, S. (2019). The diffusion of e-participation in public administrations: A systematic literature review. *Journal of Organizational Computing and Electronic Commerce*, *29*(2), 61–95. https://doi.org/10.1080/10919392.2019.1552749

UNDESA. (2022). *United Nations E-Government Survey 2022: The Future of Digital Government*. UN. United Nations Department of Economic and Social Affairs. https://publicadministration.un.org/en/

UNDP. (2016). *Annual Report on Evaluation 2015*. United Nations Development Programme. https://doi.org/10.18356/9b3de4ac-en

Urbach, N., & Müller, B. (2012). The Updated DeLone and McLean Model of Information Systems Success. In: Dwivedi, Y., Wade, M., Schneberger, S. (eds) Information Systems Theory. Integrated Series in Information Systems, vol 28. Springer, New York, NY. https://doi.org/10.1007/978-1-4419-6108-2_1

Van Der Meijden, M. J., Tange, H. J., Troost, J., & Hasman, A. (2003). Determinants of success of inpatient clinical information systems: A literature review. *Journal of the American Medical Informatics Association*, *10*(3), 235–243. https://doi.org/10.1197/jamia.M1094

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly: Management Information Systems*, *36*(1), 157–178. https://doi.org/10.1109/MWSYM.2015.7167037

Zhu, J., & Liu, W. (2020). A tale of two databases: The use of Web of Science and Scopus in academic papers. *Scientometrics*, *123*(1), 321–335. https://doi.org/10.1007/s11192-020-03387-8

Zolotov, M. N., Oliveira, T., Cruz-Jesus, F., & Martins, J. (2018). Satisfaction with e-participation: A model from the Citizen's perspective, expectations, and affective ties to the place. *Advances in Intelligent Systems and Computing*, *745*, 1049–1059. https://doi.org/10.1007/978-3-319-77703-0_102