

Multilevel perspective for the diffusion of e-democracy implementation: A systematic literature review

Nur Ajrun Khalid

ORCID Nr: 0000-0003-3554-9151

School of Social Sciences, Universiti Sains Malaysia, 11800, Pulau Pinang, Malaysia, nurajrun@usm.my

Yu Yang

ORCID Nr: 0000-0002-1830-995X

School of Social Sciences, Universiti Sains Malaysia, 11800, Pulau Pinang, Malaysia, yangziyu@student.usm.my

Abstract: Information and communication technology has been identified as a viable means of addressing the societal issue of disconnection among e-democracy participants. Apart from the ongoing normative debate concerning the potential of information and communication technology to facilitate e-democratic processes, much research has been dedicated to examining the broad spectrum of specific e-democracy tools that have been multi-disciplinary and fragmented in recent years. Remarkably, however, the potential of technology diffusion and its impact on implementing e-democracy in cyberspace has not yet received adequate attention. The key issue for the sustainability of e-democracy is technology accessibility, which is also a central factor in technology diffusion. This systematic literature review seeks to structure and systematise the literature on the different phases of e-democracy implementation technology diffusion (adoption, implementation, and institutionalisation) and levels of analysis (macro, meso, and micro) with the aims of, firstly, mapping the current field of e-democracy technology diffusion research and, secondly, providing a unique study for use in future research. The analysis indicated that researchers have primarily focused on the adoption and implementation stages, as well as the external information and communication technology environment at the macro level and the organisational level at the meso level within public administrations. In general, this review highlights major gaps in the current literature and proposes viable avenues for further research.

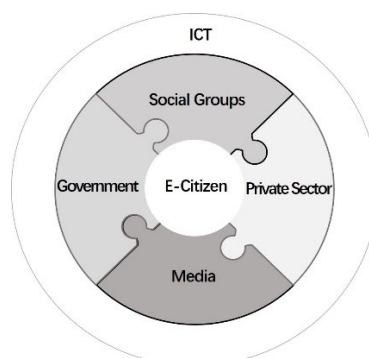
Keywords: e-democracy, technology diffusion, multilevel perspective, sustainability, systematic literature review

1. Introduction

Since the early 1960s, futurists and scholars have generally agreed on the major potential of new information and communication technology (ICT) to revolutionise traditional practices of political communication and political systems (Lindner & Aichholzer, 2020). Over time, deep reflections on the effective use of the Internet to enable societal participation have produced a rapidly expanding interdisciplinary conversation and numerous studies covering a range of topics. Among the numerous contributions to the discussion about these democratic innovations, the International Political Science Association (IPSA) Research Committee on Electronic Democracy has been prominent in e-democracy research since its foundation in 2007 (González-Bustamante & Aguilar, 2023). Some scholars have noted the close relationship between the success of e-democracy and the capacity to improve technology accessibility, the skills of individuals, knowledge, and awareness, factors that enable people with internet access to actively participate in societal affairs (Blanc, 2020; Perkins & Palmer, 2012). Moreover, both the societal relevance of technology diffusion and the acceptance of new technology are interconnected with the goal of e-democracy (Hilbert, 2020) since the latter inevitably relies on ICT support to improve and strengthen democracy, democratic institutions, and democratic processes. E-democracy covers different sectors, institutions, and governmental levels associated with democracy (Esselimani, 2021; Heo & Hahm, 2015). More specifically, Clift defined the concept as the incorporation of the use of information and communication technologies (ICTs) by democratic sectors participating in the political processes of local communities, states, regions, or nations, as well as at the global level (Clift, 2003). Meanwhile, democratic sectors may include governments, elected officials, the media (including online portals), political parties, interest groups, civil society organisations, international governmental organisations, and citizens (Clift, 2003).

Similarly, Morrisett claimed that ICTs can be used to further improve the democratic process through e-democracy (Morrisett, 2003), in which citizens, as the central actors in affairs participation, can effectively influence the decision-making process within and between institutionally, politically, or geographically diverse networked communities (Shirazi, 2008). As a result, a comprehensive review of the conceptual model of e-democracy led to Clift's model being modified (Shirazi, 2009), with ICT introduced and applied to the original five aspects of association among e-citizens, governments, political groups, media, and the private sector. Therefore, the model gained further clarity and remained relevant in the context of the rapidly expanding body of research ideas and the theoretical system, as shown in Figure 1.

Figure 1: Conceptual model of e-democracy. Adapted from Clift (2003)



The modified model highlights the powers of ICTs that enable e-democracy to be linked with various democratic sectors spanning local to national levels. E-citizens can use ICTs to interact with social groups, government agencies, the media, and the private sector. ICTs also allow the use, creation, and dissemination of information so e-citizens can demand a stronger focus on openness and democracy within society. For example, governments provide citizens with broad access to information and technology, thus allowing active participation in electronic interactions. In addition, online platforms are utilised by social groups to facilitate advocacy campaigns, whereas political parties leverage the internet as a way to conduct their campaigns. The media, as well as online platforms like portals and search engines, are crucial in disseminating news and supporting efficient Internet navigation. Lastly, the private sector plays a significant role in improving connectivity, developing software, and advancing technology, primarily motivated by economic factors. Overall, this outlines the functioning and impact of e-democracy.

Scholars have emphasised, however, that governments have encountered difficulties when implementing e-democracy and employed it to a limited extent (Norris, 2010). The diffusion of innovations, such as ICTs or new regulations, laws, or policies in a social system, is a primary aspect of the challenges associated with the diffusion of e-democracy within public administrations (Lindner & Aichholzer, 2020). Several factors contribute to the possible emergence of such challenges. The diffusion of technology-driven innovations, such as e-participation, relies on the interaction between the current technology (e.g., social media) and the social systems (e.g., the public administration setting with its particular norms and regulations) in which they are employed (Kraus, 2021; Attour & Chaupain-Guillot, 2020). Balancing such challenges frequently takes time and creates context-specific problems that must be resolved (Breaugh, 2021; Curristine, 2007). On the one hand, governments are the main actors in the process of technology diffusion for e-democracy, so the use of ICTs to promote democratic values, such as deliberative engagement and participation, contributes to the complexity of this process (Metallo, 2018). Thus, a full understanding of these organisations, their contextual background, and their societal position is needed. Governments, on the other hand, may also encounter challenges in technology diffusion processes. As some researchers have claimed, political control, leadership, and accountability to citizens can potentially complicate this process when implementing e-democracy within public administrations (Bastick, 2017; Zhang, 2014).

Based on the existing review, research on the implementation of e-democracy remains a fragmented and expansive domain that includes multiple disciplines, such as public administration, political science, organisation studies, communication and media studies, and information systems research (Gil-Garcia, 2018), making it difficult to obtain a coherent overview of the current body of knowledge. Despite the studies on topics like e-democracy (Ronchi, 2019), smart governance (Vinod Kumar, 2017), and social media in government (Yuan, 2023), far less research has focused on the challenges encountered by public administrations during the diffusion of e-democracy implementation, with multilevel perspective analyses especially lacking. In other words, researchers and administrators are still finding it difficult to build on previous studies to understand better the current knowledge and practices regarding the diffusion of e-democracy implementation in public administrations. Therefore, this systematic literature review (SLR) sought to systematically synthesise the existing knowledge on implementing e-democracy within the complex social system of public administrations. Multilevel perspective analysis was adopted to evaluate the research related to the

diffusion of e-democracy implementation in public administrations, providing an insightful and interdisciplinary review of the topic. In summary, this study addresses a research gap by adding a necessary aspect to gain a full understanding of technology diffusion as a facilitating characteristic for a broadened e-democracy process in public administrations and combining three levels of analysis (macro, meso, and micro). This enables a better understanding of whether and to what extent e-democracy implementation actually enhances quality. This SLR addresses three specific research questions (RQ):

RQ1: Is the analytical framework for early research on the diffusion of e-democracy implementation sufficiently systematic?

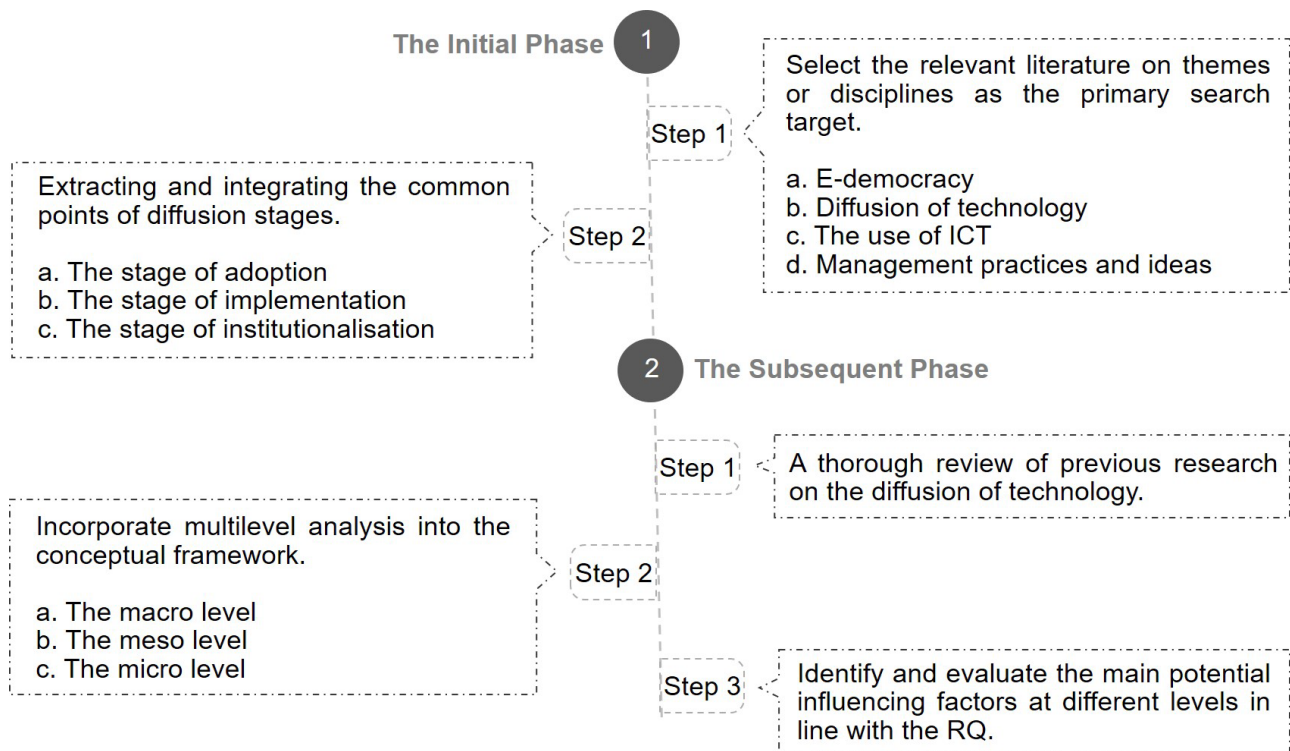
RQ2: What primary research areas are associated with the diffusion of technology in implementing e-democracy in public administrations?

RQ3: Which specific areas related to the implementation of e-democracy in public administrations require further research in the future?

2. Analytical framework

A recent study demonstrated that implementing ICTs, specifically e-democracy, within public administrations is a complicated task involving numerous uncertainties; therefore, it raises challenges for democratic organisations (Solinthone & Rumyantseva, 2016). First, the process presents a technological challenge (Cascio & Montealegre, 2016) because introducing new technologies creates multiple possibilities and restrictions for administrations to consider as they develop solutions that align with their specific needs. Researchers and policymakers commonly believe that social media platform features, such as interaction and transparency, are appropriate and favourable for promoting participatory engagement in e-democracy (Kim & Lee, 2017; Mergel, 2012). Therefore, public administrations need to possess certain technological capabilities and resources if they are to employ new technologies effectively. Furthermore, some scholars have noted a tendency to be overoptimistic about the capacity of e-democracy to include citizens in political processes and reinstate the legitimacy of governments (Bohman, 2014). ICT tools do not represent objective technology as they bring new values and norms that require evaluation, interpretation, redesign, and adoption in particular environments (Fountain, 2001). Thus, according to Hooks, diffusion processes are influenced by a range of factors, including technological aspects and accessibility, as well as social, institutional, organisational, and environmental aspects (Hooks, 2022). A thorough comprehension of the social and organisational contexts of democratic organisations, such as public administrations, is necessary to understand the development of technology-based practices (e.g., e-democracy) and democratic organisations, which are interconnected (Malodia, 2021; Warren, 2017). To systematise the literature, the analytical framework, developed in two phases involving different stages and a multi-level focus (see Figure 2), sufficiently included studies from various academic disciplines to address the first research question (RQ1).

Figure 2: Analytical framework for the study



The initial phase involved a thorough analysis of the existing literature pertaining to e-democracy, the diffusion of technology (Rogers, 2003), the use of ICT (Schneider, 2006), as well as management practices and ideas (Ansari, 2010). While disciplines might employ different terminology to describe the stages of a diffusion framework, three stages were consistently emphasised in most cases, as shown in Table 1:

Table 1: Three stages for most diffusion frameworks

Stages	Terminology	Description Definition
1	Adoption	It encompasses a series of activities undertaken by organisations to familiarise themselves with and gain knowledge about ICTs.
2	Implementation	Refers to the process of incorporating innovations into existing organisational procedures and structures.
3	Institutionalisation	Refers to the process by which ICTs become an accepted and routine part of an organisation's operations.

The initial phase, known as adoption, encompasses a series of activities undertaken by organisations to familiarise themselves with and gain knowledge about ICTs (Soja & Soja, 2020). This involves gathering relevant information to assess the potential benefits associated with the adoption of ICTs, such as their technical and financial advantages (Jaganathan, 2018). Organisations then make careful choices about ICT acquisition (Touray, 2021).

According to Molero, the second stage, implementation, refers to incorporating innovations into existing organisational procedures and structures (Molero, 2019). This stage involves the installation and delivery of ICTs within an organisation (S.-B. Kim & Kim, 2020), the diffusion of ICTs among organisational users, the adjustment of organisational procedures and processes to fit the new ICTs (S.-B. Kim & Kim, 2020); and the adaptation of ICTs to align with existing structures (Wiredu, 2012). Hence, the implementation phase emphasises the novelty and experimental nature of ICTs and underscores the importance of considering processes like adaptation (Bocconi, 2013), translation (Kornberger, 2017), and enactment (García-Sánchez, 2015).

Institutionalisation, the third stage, as described by Mahmud, pertains to both a process and a state (Mahmud, 2017). It refers to the process by which ICTs become accepted and routine aspects of an organisation's operations. ICTs, for example, become incorporated into organisational routines and structures (Steyn & Johanson, 2010), perhaps eventually reaching a state of repetition (Sieweke, 2013). Therefore, this stage encompasses the endeavours undertaken to maintain or disseminate innovations (Kuchenmüller, 2022).

In the subsequent phase, a thorough review of previous research on the diffusion of technology was conducted. We combine three different levels (multi-level focus) and stages (process focus). Particular reference was made to Rhue and Sundararajan (2014), hence incorporating three levels of analysis into the conceptual framework. The macro level pertains to the external environment in which an organisation operates, including aspects such as national culture, regulations, societal norms, and technology accessibility. The meso level involves the organisation's unique features, such as its size, culture, and practices. Furthermore, the micro level focuses on individuals involved in the organisation, including executives and staff. Differentiation between levels of analysis is widely acknowledged to be important due to the simultaneous influence of several levels of factors on the diffusion process. Research has indicated that ICT adoption is influenced by various social, organisational, and individual factors (Duran & Castillo, 2023). For instance, national culture has been found to play a key role as a social factor (Choden, 2019), while business size has been identified as an organisational element (Gaviria-Marin, 2021). Additionally, individual factors such as commitment and skills have also been connected with ICT adoption (Muriithi, 2016). Hence, differentiation enabled the presentation of a broader perspective on the diffusion of e-democracy implementation in public administrations.

In brief, the analytical framework enables the systematisation of research endeavours by categorising them according to the stages of the diffusion process and the level of analysis to which they belong, as they indicate connections between different levels and stages. These recurring factors and strategies emphasise the significance of integrated research. Therefore, the proposed framework provides a broad approach that enables the synthesis of diverse studies analysing different aspects of organisational diffusion, contributing to developing a more cohesive viewpoint.

3. Method

The application of SLRs has become an established approach in the management field (Kraus, 2020) that serves the purposes of determining the research scope and providing a comprehensive review

of prior literature to identify research gaps (Sauer & Seuring, 2023) based on a rigorous methodology that guarantees the transparency and reproducibility of the findings for future research (Seuring, 2020). We adhered to the widely adopted Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, which ensures transparent and full reporting of the SLR. In accordance with the previous studies, the SLR approach was employed to synthesise the knowledge base and systematically link the works to the diffusion of e-democracy implementation. Given the objective to conduct and structure the associated research process, the four generic phases outlined by Snyder (2019) were adhered to and extended: preparation, conduct, analysis, as well as structuring and writing the review.

3.1. The preparation phases

The initial stage of the research process involved two critical steps: designing and formulating the research objectives and determining the search criteria. The former enabled the researchers to define the scope of the current review, while the latter established the protocol with which the review was conducted (Dhir, 2020).

3.1.1. Determining the search criteria

The approach employed to determine the criteria by which articles would be deemed eligible for inclusion in the SLR adhered to prior research in the e-participation domain (Susha & Grönlund, 2012). The sources were chosen without designating a specific starting year for the search, given the intention of obtaining a broad overview of the development of the field. Furthermore, the authors mainly collected peer-reviewed articles published in academic journals to ensure scientific rigour. Grey literature, such as popular publications, is not included in this genre. Books and book chapters that were not indexed in major databases like the Web of Science or Scopus were excluded from the analysis since these resources may have substantial differences in the systematic description of research methodologies and evidence, and they tend to provide less systematic descriptions of the research method or lack empirical proof. Only international articles published in English were chosen as these publications have made significant contributions to the global discourse on academia.

Table 2: Eligibility criteria inclusion of articles in SLR

Selection Criteria

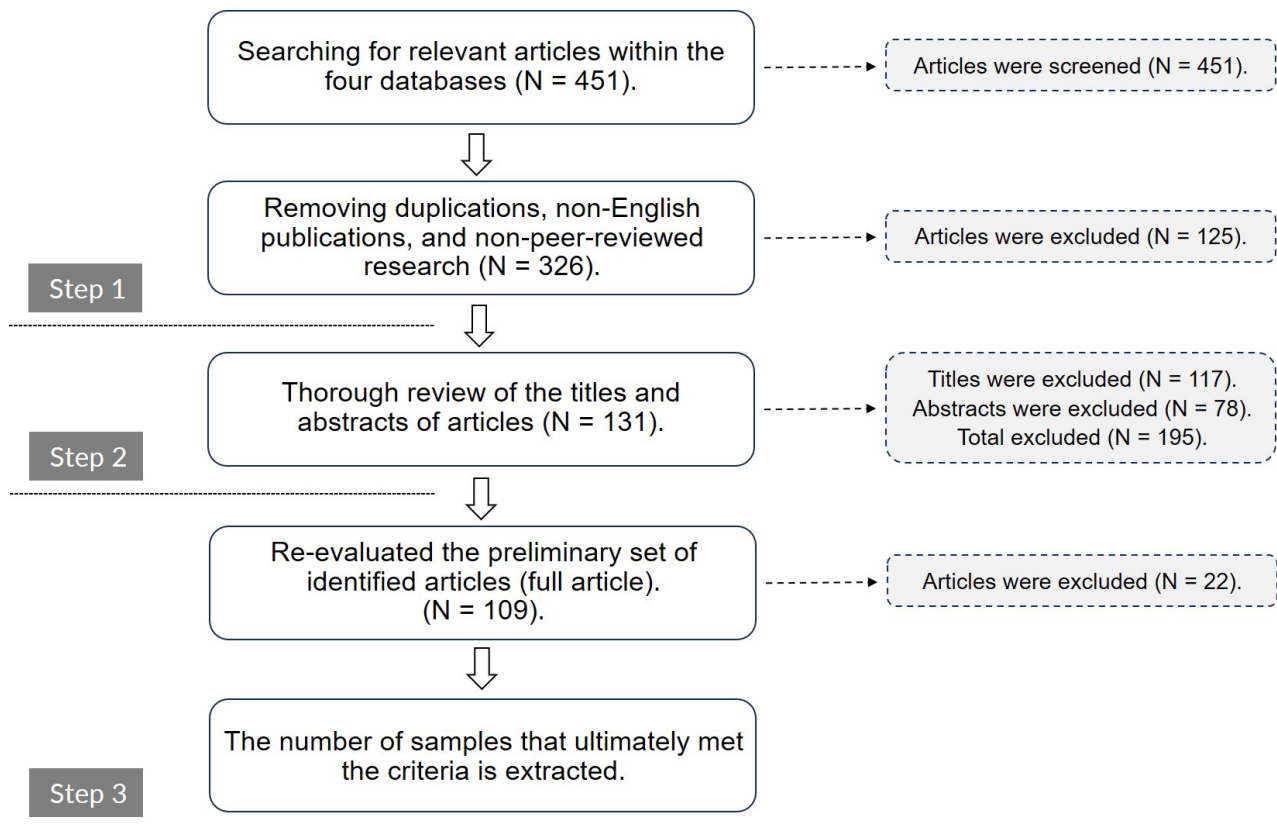
-
1. Language: English only.
 2. Journal: A peer-reviewed journal that excludes grey literature, such as popular publications.
 3. Only books and book chapters indexed in major databases like the Web of Science or Scopus are included.
 4. Original research (including empirical and theoretical contributions).
 5. Do not define a start year for the search.
 6. Relevance to the research questions and the following articles are excluded:
 - * Not addressing democracy;
 - * Not addressing ICT;
 - * Not addressing diffusion;
 - * Not specifically involving public administration;
 - * Addressing subjects related to public administration or digital government but not e-democracy;
 - * Addressing another context (such as health, social care, or the private sector).
-

3.2. The phase of conducting the search

This stage encompassed identifying and selecting databases and related publications, as well as gathering articles from several academic databases. The selection of Web of Knowledge (WOK), Scopus, and EBSCO was based on their standing among the largest scientific bibliographic databases in the social sciences since they cover a wide range of subdisciplines in the field. Meanwhile, the E-Government Reference Library (EGRL, 2016) was also used. To ensure the sensitivity and specificity of the literature searches, a search string was carefully developed based on the research question (Petticrew & Roberts, 2006: 81–2). The search query combined three search term categories: the first category pertains to the adoption, implementation, and institutionalisation of e-democracy; the second refers to the diffusion of ICT and technology; and the third relates to public administration, policy processes, and the environment. A minimum of one keyword from each set had to appear in the title, abstract, and keywords. During the preliminary stages of scanning the chosen databases, the query's sensitivity was extended by adding other terms that appeared relevant. The ultimate search query was employed consistently across all the selected databases.

A three-step procedure was employed to narrow the list of relevant articles aligned with the selection criteria defined above (refer to Table 2), with the flow diagram shown in Figure 3. Firstly, we evaluated the sources and languages of all the articles derived from the search, identifying a total of 451 results across the four databases. After removing duplications, non-English publications, and research that was not peer-reviewed, a total of 326 publications remained. Next, in-depth screening was conducted on the titles and abstracts of articles related to the research questions, and preliminary articles meeting the predefined criteria were identified (see Table 2), including: Does the research include any original contributions, whether empirical or theoretical? Does the study relate to the research questions? After the initial coding process, the authors discussed the articles in which they disagreed to reach a consensus while adhering to the selection criteria. Then, one author went through all titles and abstracts, identifying a total of 131 articles that fulfilled the criteria set forth. Finally, another author extensively re-evaluated the preliminary set of identified articles. Once again, the authors had discussions regarding critical cases, leading to the exclusion of articles that did not adhere to the criteria. A total of 109 samples were ultimately extracted at this stage, as illustrated in Appendix 1.

Figure 3: Diagram of the procedure flow



3.3. The analysis phase

A multi-step approach was adopted for the content analysis phase. First, the articles were reviewed and categorised according to their main contributions, including their analytical or descriptive character, interpretive causal explanations, positivist hypothesis testing, and design research and methods, as well as the ICT tools analysed and the administrative level. The results were then charted by one author, employing the analytical framework of this study. This helped gather insightful information related to the research domain's scope, range, and nature.

Second, we tested the coding scheme by examining twenty articles the authors independently coded. The authors collectively strengthen their understanding of the categories by discussing the results, thereby ensuring a more coherent coding procedure. The results were presented systematically by applying the proposed analytical framework and developing different categories. In general, using categories facilitated extracting relevant findings and disseminating knowledge about implementing e-democracy in public administrations.

Next, one author coded by inductively applying the aforementioned categories to achieve a cohesive classification. This included all three stages and levels, and a nine-field matrix was produced. During this phase, a cycle-scanned literature review was conducted inside each cell, such as whether macro-adoption or meso-implementation research was involved, which inductively identified specific areas like barriers, facilitators, and strategies. After an initial coding cycle, the authors discussed the classification of the literature to achieve consensus on ambiguous cases and establish

clear boundaries for the categories. The authors then moved back and forth between the summary table and the reference articles, aiming to discover relevant categories and populate the analytical matrix. Depictions of the final overview information are in Table 3 (see the following section, research profiling and results).

3.4. The phase of structuring and writing the review

The last phase, which involved structuring and forming the final review based on the research purpose, covered the aspects of identifying, analysing, synthesising, reporting, and proposing an agenda for further research.

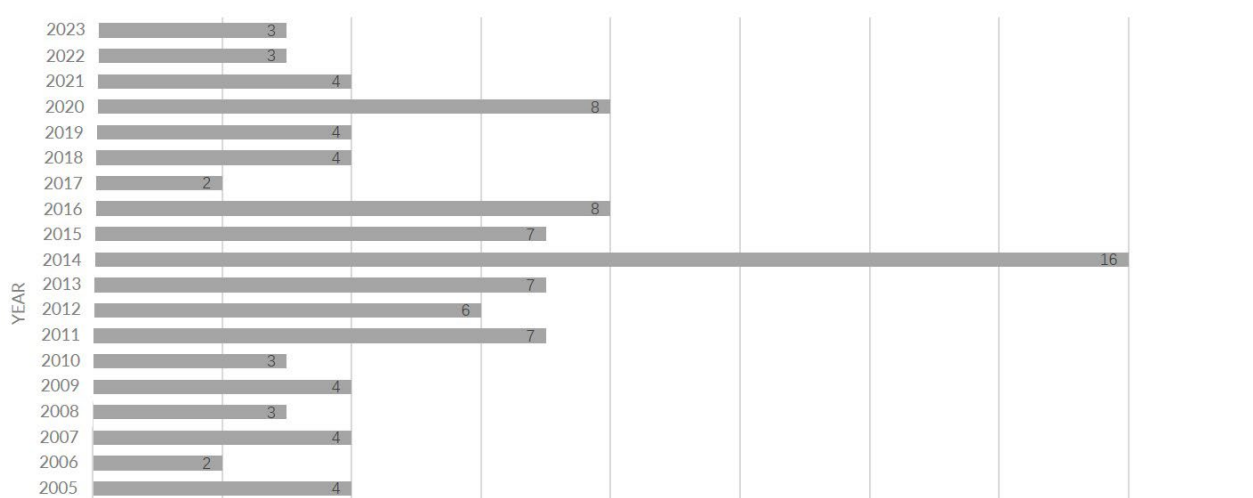
4. Research profiling and results

4.1. General overview

4.1.1. The basics of information analysis

As Figure 4 shows, the first studies on the diffusion of e-democracy in public administrations were published in 2002. Nevertheless, it is worth pointing out that a substantial number of the articles, about 47% (N = 109), were concentrated between 2011 and 2016. This indicates a notable increase in academic attention to this topic and emphasises its relevance during that period. Since the number of studies has declined, returning to a similar point as that observed at the beginning of the previous period, the production of research has reverted to its normal status. Additionally, over half of the articles focus primarily on three distinct publications that target e-government, public administration, and information systems research. Some of these publications pertain to e-government, such as *Government Information Quarterly*, *Electronic Government*, and *Government Information Information Policy*; others are related to public administration, such as *Public Administration Review*, *Public Management Review*, *Public Performance and Management Review*, *Local Government Studies*, and *Journal of Public Administration and Governance*; while some are associated with information systems research, such as *Information Systems Journal*, *Online Information Systems Research*, and *Information Systems Research Journal*. Meanwhile, 52 journals were referenced only once each, confirming the fragmented character of the research field.

Figure 4: Number of publications by year



4.1.2. Evaluation of geographical and administrative dimensions

It is notable that public administrations reveal substantial differences regarding their organisation and structural initiatives, which can be caused by geographical differences. Furthermore, administrative tasks can vary depending on the specific administrative level. The result only depends on the selection of English literature. A review of the geographical emphasis in the studies covered in the sample revealed an extensive focus on Europe (N = 41; 37.6%), the United States (N = 26; 23.8%), and China (N = 19; 17.4), which jointly occupied a reasonably high proportion of the articles. Remarkably, research on the diffusion of e-democracy in African and South American nations is seriously lacking in the English-language literature. This might indicate a limited focus on the English language in such nations or potentially be attributed to a lack of accessible English research literature. In addition, with respect to the administrative dimension, the growth of e-democracy has mainly been evaluated at the local (N = 54; 49.5%) and national levels (N = 33; 30.2%). Scholars frequently claim that the local-level aspect has considerable weight as it directly impacts citizens. In contrast, numerous studies have examined the national level in the context of e-democracy and e-participation. These studies have focused on tasks implemented by national government agencies and referred to the UN e-participation index (EPI), which provides worldwide and easily accessible secondary data on the adoption of e-participation by national governments.

4.1.3. The diffusion of ICT in e-democracy

While acknowledging the rapid growth of ICT diffusion in certain contexts, the technical basis of e-democracy in relation to participation needs to be examined. Given the broad spectrum of ICTs covered in the articles, the plan was to investigate these technologies in the context of both conceptualisation and operationalisation. A fair number of articles (N = 41; 37.6) were discovered to lack detailed discussion of technologies that could enable e-democracy use for participatory purposes. Furthermore, over half of the existing research focuses on a wide range of e-participation tools that encourage interactive communication, yet these studies tend to overlook the special features of these technologies that result from the use of indices to assess e-democracy levels in the context of internet-based participation features without properly considering their execution in practice. Moreover, other endeavours involve deeper explorations of specific e-democracy tools whose purpose is to foster participation. A review was conducted of 27 studies that evaluated the diffusion trends of different social media networks among government agencies and public administrations. Finally,

few studies provided full examinations of additional e-democracy tool categories like e-petitioning, geographical tagging, and media monitoring.

4.1.4. The diffusion of e-democracy in public administration

The diffusion of e-democracy within and amongst public administrations is somewhat new as a research subject. Analysis of the applied methods revealed many different research approaches, including quantitative (N = 32; 29.3%), qualitative (N = 31; 28.4%), mixed-methods (N = 24; 22%), and conceptual accounts (N = 22; 20.1%). When categorising the articles, over half (N = 51; 46.7%) were observed to have adopted analytical or descriptive methods. Another set of articles (N = 35; 32.1%) focused on developing causal explanations or linking them with testable predictions. Meanwhile, a smaller number (N = 11; 10%) engaged in design and action research. Table 3 presents a comprehensive summary with a nine-field matrix of the review findings, which were derived from the selected sample of articles listed in Appendix 1.

Table 3: Comprehensive overview of the literature with a nine-field matrix

			Level 1 Slow to change	Level 2 Over time	Level 3 Created by landscape developments
			Macro Level External structure; context/environment for interactions	Meso Level Organisational units	Micro Level Individual dimension
Process 1	Adoption	Obstacles & Enablers	a. Institutional background	a. Organisational cultures & context	a. Perceptions & attitudes
			b. Networks & learning/training	b. Institutional context	
			c. External stakeholders	c. Acquisition of resources (e.g., infrastructure & technological skills)	
			d. Cultural norms	d. Regime shifts	
			e. Internal political pressure		
		Strategies	--	a. Institutional context modifications	--
Process 2	Implementation	Obstacles & Enablers		a. Organisational cultures & context	
				b. Institutional context	
			a. Institutional context	c. Socio-technical regime	a. Perceptions & attitudes
			b. Societal context	d. Regulations	b. Adopted or rejected
			c. External Stakeholders	e. Resources for technologies	
			f. Design for user patterns		
			g. Infrastructures & costs		

		h. Risks			
		a. Institutional context modifications			
Process 3	Institutionalisation	Strategies	a. Institutional context modifications	b. Developed organisational integration	a. Relationship management
				c, Relationships	
				d. Pre-design	
		Obstacles & Enablers	a. Societal values or worldviews	b. Cultural changes	a. Societal values
		a. Institutional context modifications			
		b. Organisa-tional integra-tion			
		c. Institutional context modifications			
		Strategies			

Table 3 above outlines each of the categories, which represent the different phases of the diffusion of e-democracy implementation technology (adoption, implementation, and institutionalisation) linked to the levels of analysis (macro, meso, and micro). The matrix was developed from the inductive analysis of the primary conceptual and empirical contributions identified in the selected articles. The depth and scope of the field were explored to address the second question (RQ2).

The following section presents the results in line with the structure of the analytical framework. Each stage of the diffusion process was extensively examined - adoption, implementation, and institutionalisation - and the findings were differentiated according to the level of analysis at each stage, including the macro, meso, and micro levels.

4.2. The output of the nine-field matrix

4.2.1. Multilevel analysis of the adoption phases

4.2.1.1. The macro level within the adoption phase

The main topic of concern in macro-level research on the implementation of e-democracy is the evaluation of obstacles and facilitators that account for the differences in the extent to which public administrations adopt e-participation.

The first set of factors associated with cross-country studies indicated that the institutional context, including national and administrative cultures, is correlated with the adoption of e-democracy

initiatives by public administrations at both the local and national levels (e.g., Royo, Yetano & Acerete, 2013). However, research has so far failed to provide proof that a nation's democratic progress impacts the national-level adoption of e-democracy.

The second set pertains to the interconnections and ways of learning that occur within administrative units. For example, the correlation between engagement in professional networks and rewards, as well as geographic proximity, has been examined in relation to the adoption of e-participation in public administrations (e.g., Sobaci & Eryigit, 2015). These factors are believed to facilitate inter-organizational learning and foster competition. Several studies (e.g., Ma, 2013) suggest that adopting e-democracy is an ongoing process of learning and training for administrative groups in which the adoption level accumulates over time.

The third set of factors refers to the impact of external stakeholders, including the demands placed by citizens and politicians. For example, research indicates a correlation between e-participation acceptance and factors like the volume of internet users (Lee, Chang & Berry, 2011) and the socio-economic status of participants.

An additional set refers to cultural norms (Zhao, 2012) since the primary focus of e-democracy procedures is the citizenry, whose participation is required in the innovation process.

Furthermore, investigations have examined how decision-making and policy formulation by higher-level national agencies have impacted the implementation of e-democracy initiatives at lower administrative levels under the influence of higher-level pressure (e.g., Ma, 2013).

4.2.1.2. The Meso Level within the Adoption Phase

A previous study (Royo, Yetano & Acerete, 2013) examined the correlation between organisational culture and the implementation of e-democracy within public administrations by considering factors like commitment to cultural norms and values, including environmental aims and transparency, as well as formal organisational environments.

Moreover, the majority of the research examined suggested that the implementation of e-democracy practices and technologies within public organisations remains limited across all administrative tiers (e.g., Mossberger, Wu & Crawford, 2013), with the exception of certain social media platforms that demonstrate high acceptance rates (Mergel, 2012). The research findings indicate that the institutional context of public administrations and regime shifts are significant factors in explaining the low adoption rates of organisational meso-level barriers and facilitators.

Likewise, key resources that positively affect e-democracy adoption can be obtained in studies pertaining to the impact of organisational resource availability on adoption decisions, as well as the organisational capacities such as technological skills, telecommunications infrastructure, and sophisticated e-government services.

4.2.1.3. The Micro Level within the Adoption Phase

A limited amount of research has examined the macro-level adoption of e-democracy diffusion with respect to individual elements. However, the existing studies primarily concentrate on the micro-level obstacles to adoption, such as scepticism towards e-participation (Baldwin, Gauld & Goldfinch, 2012). Nevertheless, higher proficiency and expertise in technology use may raise government confidence in the capacity of ICTs to enable citizen engagement and support the implementation of e-democracy. The current study (Ganapati & Reddick, 2014) also revealed that at the meso level, attitudes to leadership support, citizen expectations, and normative pressures at the local level (micro) affect the adoption of e-democracy participation. This indicates significant interactions between the micro and meso levels.

4.2.2. Designing and formulating the research objectives

Consistent with the majority of research undertakings, an SLR starts by formulating a related research question, objective, or purpose. In accordance with the previously stated guiding research questions, the following three research objectives (RO) were proposed to facilitate the analysis:

RO1: To fully understand the themes and primary research areas that have emerged from previous studies associated with the diffusion of technology in the implementation of e-democracy in public administrations.

RO2: To discuss the research gaps in the existing literature and propose future avenues of research into the implementation of e-democracy within public administrations.

RO3: To provide an analytical framework incorporating a broad application that would enable the further synthesis of diverse studies analysing various aspects of organisational diffusion.

4.2.3. Multilevel analysis of the implementation phases

4.2.3.1. The macro level within the implementation phase

The research on the implementation of e-democracy by public administrations has examined macro-level factors and strategies.

Several studies have investigated the obstacles and enablers that affect the e-democracy adoption in public administrations (e.g., Bryer, 2011). These factors are influenced by the integration of e-democracy within larger institutional and societal frameworks, such as administrative or national cultures, as well as political systems (e.g., Åström, Hinsberg, Jonsson & Karlsson, 2013).

Moreover, studies on external stakeholders have demonstrated that politicians and individuals influence the implementation and use of e-democracy technologies and initiatives by public administrations (e.g., Karamagioli & Koulolias, 2008). Public administrations rely on political participants' support to execute e-democracy processes effectively, which is crucial since it requires their decision-making practices to be adapted. The declining trust of citizens in governmental actors may both facilitate and hinder e-democracy implementation in public administrations (Åström et al., 2012).

On one hand, this absence of trust might drive the adoption of e-democracy since people will seek other ways to engage with the government. On the other hand, this lack of trust might also be a significant obstacle as citizens' scepticism may make them reluctant to use administrative web-based resources.

Various scholars (e.g., Greve, 2013) have started to develop new understandings of ICT-based reforms in public administrations, with a specific emphasis on the processes of modifying the organisational context and its implications for participation and collaboration (e.g., Harrison et al., 2011). Moreover, researchers have examined and clarified the integration of ICT-related developments within existing frameworks of public-sector organisational rules (e.g., Moon & Norris, 2005). This emphasises that ICT implementation by public administrations encompasses a wide range of targets, of which democratisation is only one.

4.2.3.2. The Meso Level within the Implementation Phase

The main focus of research in this review pertains to meso-level studies that specifically examine the implementation of organisational processes. However, the presence of several approaches and fields underlines again the fragmented structure of the field.

The existing research suggests that e-democracy implementation is influenced by organisational cultures and environments (Hepburn, 2014). Social media might be employed for participation and interaction purposes in varied ways by administration departments and at distinct policy-making stages, including agenda setting and implementation.

As observed at previous levels, scholars have directed considerable attention to the institutional context. Case studies examined how institutional power structures and administrative and organisational cultures impacted the implementation of e-democracy, providing insights into the reasons for opposition and project failures (Chadwick, 2011). One potential obstacle to the successful implementation of e-democracy initiatives is bureaucratic and departmental rivalries, which might block the effective flow of information and hinder timely reactions to online conversations. Thus, citizens' devotion to e-democracy projects might be undermined.

Similarly, the meso-level obstacles and facilitators in the e-democracy context highlight how electronic resources for technology influence society, organisations, and politics (Bekkers et al., 2013), while also being strongly embedded in these systems. Democracies undergo continuous development, and the impact of ICT is not inherently transformational. Instead, ICTs tend to evolve steadily within administrative frameworks rather than aligning with ideal administrative reforms (Brainard & McNutt, 2010).

Analysing infrastructure and costs, as well as democratising the participation process (e.g., Ganapati & Reddick, 2014), have also been identified as significant management challenges.

Several studies emphasise investigating user patterns, tools, and initiatives as essential factors in the effective execution of e-democracy (e.g., Karamagioli & Koulolias, 2008). For example, it is crucial for project designs to align with both the internal aspects of e-democracy, such as process

planning, moderation, and software, as well as the exterior political considerations, which encompass administrative policy making and contextual factors that support the implementation of e-democracy (Paganelli & Pecchi, 2013).

Furthermore, several analyses (e.g., Sæbø et al., 2011) have focused on the potential risks linked to e-democracy, including security, privacy, digital divides, and strategies for protecting the transmission of critical public services when crowdsourcing or outsourcing. The digital divide poses a significant challenge to public administrations in terms of fulfilling their primary responsibility: to provide neutral and equal treatment to every citizen.

4.2.3.3. The Micro Level within the Implementation Phase

The majority of the existing research pertaining to obstacles to, and facilitators of, micro-level implementation focuses on public managers' opinions of and attitudes to e-democracy. Their perceptions of e-democracy are influenced by the complicated value systems within the public sector (Rose et al., 2014). These principles play a vital role in shaping decision-making processes regarding technology adoption within public administrations, with the inherent paradoxes often displayed (Kolsaker & Lee-Kelley, 2009). These perceptions may also be influenced by the personal characteristics or positions of administrators in e-democracy processes. It was also observed that far less attention was directed to the strategies employed by private-sector managers in using citizen-relationship management tools. In general, the number of studies on the individual differences and strategies employed by public administrations was reasonably small compared to research focused on macro- and meso-level implementation.

4.2.4. Multilevel analysis of the institutionalisation phases

4.2.4.1. The macro level within the institutionalisation phase

The least amount of research has been performed at the institutionalisation stage. In relation to macro-level initiatives, certain researchers have suggested that incorporating e-democracy into an external institutional framework that aligns with national regulations and laws could enhance the acceptance and implementation of conversational e-democracy practices within public administrations (e.g., Bertot et al., 2012). However, other studies (e.g., Maultasch de Oliveira & Welch, 2013) indicate that local public administrations frequently struggle to properly incorporate higher-tier regulations into their institutional framework. Moreover, these limitations may even reduce the willingness to accept the inherent risks associated with open government strategies, especially when such strategies cannot be adapted to fit local circumstances (Moody et al., 2012).

4.2.4.2. The meso level within the institutionalisation phase

Regarding the meso level within the institutionalisation phase, a small number of researchers have conceptualised institutionalisation as the final stage of the intra-organisational diffusion of social media, which has the potential to enhance engagement. Some researchers (Mergel & Bretschneider, 2013) suggest that adopting institutional change strategies in implementation processes could result

in the formation of participation-related norms, regulations, and organisational structures. These may include the development of social media departments, guideline formulation, or the introduction of participatory practices, all of which become normal aspects of institutionalisation. Moreover, conceptual studies have highlighted the importance of relationship management and communication strategies that accommodate the features and barriers of technology, as well as user and administrator capabilities. These strategies are essential when optimising the potential interaction and collaboration provided by social media tools and identifying opportunities for political participation (Zavattaro & Sementelli, 2014). Meanwhile, insufficient detailed empirical knowledge is available on institutionalisation at the meso level.

4.2.4.3. The Micro Level within the Institutionalisation Phase

Only one identified study mentioned e-democracy institutionalisation in public administrations at the micro level, focusing specifically on its local social value (Hoff & Scheele, 2014). This refers to measuring the expected rewards of e-government projects for local societies.

4.2.5. Discussion leading towards a future research agenda

This section of the SLR presents an extensive review of prospective research on the diffusion of e-democracy implementation within public administrations, as described in Table 5. Additionally, three areas/gaps are presented that have been somewhat overlooked, despite their crucial role in strengthening our knowledge of e-democracy implementation in public administrations and fostering a better grasp of the diffusion processes associated with e-democracy. Overall, this section aims to address the third research question (RQ3) by focusing mainly on these relatively new domains and offering potential directions for further study.

Table 5: Overview of prospective research domains

Research Area (Gaps)	Recommendations and Suggestions
1. The institutionalisation gap	<p>Institutionalising the implementation of e-democracy in public administration requires additional attention.</p> <p>Questions for reference: What should be institutionalised, how should institutionalisation occur, and what are the consequences of institutionalisation?</p> <p>Subject reference: a. Investigate the micro-level mechanisms involved in the institutionalisation process. Explanations of institutional change over time, for instance, may alter initial attitudes; generational shifts in public administrations may also contribute to the institutionalisation and diffusion of e-democracy implementation. b. Research examining the process of institutionalisation at the meso level. More specifically, studies could concentrate on the arguments surrounding the institutionalisation of e-democracy implementation.</p>

c. Micro-level research on the institutionalisation process. For instance, the values and norms incorporated in the diffusion of e-democracy may conflict with the bureaucratic logic of public administrations, so organisational actors must translate ideas so they can be better adjusted to the organisational context.

Solutions to problems:

- a. Gain a deeper understanding of why the diffusion of e-democracy implementation is institutionalised in certain public administrations but not others. Moreover, having appropriate and better measurements for e-democracy over time is essential; ideally, consider covering all levels of state and ensuring long-term engagement.
 - b. Answering these questions may help in recognising the complexities of the institutionalisation process.
 - c. Reduce conflict and encourage the acceptance and diffusion of e-democracy implementation in public administrations.
-

The absence of studies examining simultaneously two or more phases of the diffusion or technology diffusion process.

Questions for reference:

What are the interdependencies across the various phases?

Subject reference:

- a. To investigate how the motivation for phases 1/2/3 of the adoption of e-democracy implementation influences phases 1/2/3 of its implementation and phases 1/2/3 of its institutionalisation in public administrations.
- b. To conduct longitudinal process-related (case) studies. More specifically, which longitudinal studies have resulted in significant interconnected insights?
- c. How do individual-level behaviours and organisational-level features affect each other over time; to what extent do individual-level resistance behaviours differ in the early versus the late stages of implementation?

2. The diffusion process gap

Solutions to problems:

Additional insights could be provided by this type of longitudinal case study of e-democracy implementation and institutionalisation within a public administration.

Lack of multi-level studies establishing connections between different levels of analysis.

The existence of top-down contextual effects at lower levels and bottom-up emergence at lower levels was assumed to generate phenomena at higher levels.

Subject reference:

- 3. The multi-level perspective gap
 - a. Top-down contextual effects may be a research focus. Research on the macro level of adoption, for instance, might investigate how institutional contexts, related laws and regulations, cultures, and political systems affect the initial decisions of public administrations to adopt, diffuse, and implement various e-democracy practices.
 - b. Suggested emphasis on bottom-up emergence: analysing,
-

-
- for instance, how environments conducive to e-democracy or e-participation emerge or the roles played by stakeholders in this process to determine whether e-democracy is effectively adopted, diffused, and used.
- c. Consider research on the contextual effects of innovation, technology diffusion, and ICT implementation, such as the innovation climate and leadership support.
-

5. Conclusion

Governments worldwide are embracing and promoting e-democracy practices to a greater extent, which serve to enhance citizen engagement and promote openness in governmental decision-making. In this context, public administrations are pivotal in facilitating and overseeing these procedures. However, these administrations frequently encounter challenges associated with offering e-democracy opportunities and diffusing the practice. Thus, academics from several fields, including public administration, information systems, and organisation studies, have analysed the implementation of e-democracy in public administrations. The goal has often been to identify factors hindering or promoting its implementation, as well as the strategies employed. Given this context, the purpose of the current research was to conduct a thorough interdisciplinary SLR on the diffusion of e-democracy implementation in public administrations. To address RQ1, an analytical framework was also developed to effectively differentiate and identify interactions among the three stages of the diffusion process: adoption, implementation, and institutionalisation. This framework also incorporates three levels of analysis: macro, meso, and micro perspectives. By integrating the research findings from diverse disciplines, this comprehensive framework offers valuable insights into the subject.

The analysis revealed that while academics have made significant contributions in terms of understanding the obstacles, enablers, and approaches related to the adoption and implementation stages, limited studies have offered insights into the institutionalisation stage. Moreover, the majority of the research studies have concentrated primarily on a single stage within one of the three levels of analysis. This suggests the potential for multi-level and multi-phase investigations to be conducted into the diffusion of e-democracy implementation in public administrations, thus answering RQ2.

Drawing upon the discoveries thus far, a research agenda was subsequently developed for future research to address RQ3. This discussion focuses on three adequately addressed research fields: the institutionalisation stage, the diffusion process, and multi-level research. Likewise, recommendations are made for further investigation in this field. Overall, the authors express their confidence that their SLR pertaining to the diffusion of e-democracy implementation in public administrations has the potential to enhance cross-disciplinary discourse on this subject.

In general, incorporating multi-disciplinary viewpoints should enhance the scope and depth of knowledge regarding the technological diffusion process. Naturally, this could also potentially hinder the flow of e-democracy information among scholars. Yet the extensive analysis of studies across multiple disciplines indicated that perceived differences between disciplines tend to be less trou-

bling than has generally been assumed. Moreover, focusing on e-democracy diffusion as a phenomenon presents an opportunity to overcome disciplinary barriers. Systematising within this research field is anticipated to facilitate the consolidation and expansion of the large but fragmented body of academic investigations.

References

- Mingers, J. (1999) Åström et al., J. (2012). Understanding the Rise of e-Participation in Non-Democracies: Domestic and International Factors. *Government Information Quarterly*, 29, 142–150. <https://doi.org/10.1016/j.giq.2011.09.008>
- Åström, Hinsberg, Jonsson & Karlsson, J. (2013). Crisis, Innovation and eParticipation: Towards a Framework for Comparative Research. 8075, 26–36. https://doi.org/10.1007/978-3-642-40346-0_3
- Attour, A., & Chaupain-Guillot, S. (2020). Digital Innovations in Public Administrations: Technological or Policy Innovation Diffusion? *Journal of Innovation Economics & Management*, 31(1), 195–219. <https://doi.org/10.3917/jie.pr1.0061>
- Baldwin, Gauld & Goldfinch, J. N. (2012). What Public Servants Really Think of E-Government. *Public Management Review*, 14(1), 105–127. <https://doi.org/10.1080/14719037.2011.589616>
- Bastick, Z. (2017). Digital Limits of Government: The Failure of E-Democracy. Beyond Bureaucracy: Towards Sustainable Governance Informatisation. <https://hal.science/hal-01734587>
- Bekkers et al., V. (2013). Social media monitoring: Responsive governance in the shadow of surveillance? *Government Information Quarterly*, 30(4), 335–342. <https://doi.org/10.1016/j.giq.2013.05.024>
- Bertot et al., J. (2012). The Impact of Polices on Government Social Media Usage: Issues, Challenges, and Recommendations. *Government Information Quarterly - GOVT INFORM QUART*, 29. <https://doi.org/10.1016/j.giq.2011.04.004>
- Blanc, D. L. (2020). E-participation: A quick overview of recent qualitative trends. Working Papers, Article 163. <https://ideas.repec.org/p/une/wpaper/163.html>
- Bocconi, S., Kampylis, P., & Punie, Y. (2013). Framing ICT-enabled Innovation for Learning: The case of one-to-one learning initiatives in Europe. *European Journal of Education*, 48(1), 113–130.
- Bohman, S. (2014). Information Technology in eParticipation Research: A Word Frequency Analysis. E. Tambouris, A. Macintosh, & F. Bannister, *Electronic Participation*. Springer. https://doi.org/10.1007/978-3-662-44914-1_7
- Brainard, L. A., & McNutt, J. G. (2010). Virtual Government–Citizen Relations: Informational, Transactional, or Collaborative? *Administration & Society*, 42(7), 836–858. <https://doi.org/10.1177/0095399710386308>

Breaugh, J., McBride, K., Kleinaltenkamp, M., & Hammerschmid, G. (2021). Beyond Diffusion: A Systematic Literature Review of Innovation Scaling. *Sustainability*, 13(24), Article 24. <https://doi.org/10.3390/su132413528>

Bryer, T. A. (2011). The Costs of Democratization: Social Media Adaptation Challenges Within Government Agencies. *Administrative Theory & Praxis*, 33(3), 341–361.

Cascio, W., & Montealegre, R. (2016). How Technology Is Changing Work and Organizations. *Annual Review of Organizational Psychology and Organizational Behavior*, 3, 349–375. <https://doi.org/10.1146/annurev-orgpsych-041015-062352>

Chadwick, A. (2011). Explaining the Failure of an Online Citizen Engagement Initiative: The Role of Internal Institutional Variables. *Journal of Information Technology & Politics*, 8, 21–40. <https://doi.org/10.1080/19331681.2010.507999>

Choden, K., Bagchi, K. K., Udo, G. J., Kirs, P. J., & Frankwick, G. (2019). The Influence of Cultural Values on Information and Communication Technology (ICT) Diffusion Levels: A Cross-National Study. *Journal of Global Information Technology Management*, 22(4), 243–256. <https://doi.org/10.1080/1097198X.2019.1679586>

Clift, S. (2003). E-Democracy, E-Governance and Public Net-Work.

Curristine, T., Lonti, Z., & Joumard, I. (2007). Improving Public Sector Efficiency: Challenges and Opportunities. *OECD JOURNAL ON BUDGETING*, 7(1).

Dhir, A., Talwar, S., Kaur, P., & Malibari, A. (2020). Food Waste in Hospitality and Food Services: A Systematic Literature Review and Framework Development Approach. *Journal of Cleaner Production*, 270, 122861. <https://doi.org/10.1016/j.jclepro.2020.122861>

Duran, J., & Castillo, R. (2023). Factors related to information and communication technologies adoption in small businesses in Colombia. *Journal of Innovation and Entrepreneurship*, 12(1), 55. <https://doi.org/10.1186/s13731-023-00272-5>

Esselimani, S., Sagsan, M., & Kiralp, S. (2021). E-Government Effect on Participatory Democracy in the Maghreb: Indirect Effect and Government-Led Participation. *Discrete Dynamics in Nature and Society*, 2021, 1–13. <https://doi.org/10.1155/2021/6642998>

Ganapati, S., & Reddick, C. (2014). The Use of ICT for Open Government in U. S. Municipalities. *Public Performance & Management Review*, 37, 365–387. <https://doi.org/10.2753/PMR1530-9576370302>

García-Sánchez, E., García-Morales, V., & Bolívar-Ramos, M. (2015). The influence of top management support for ICTs on organisational performance through knowledge acquisition, transfer, and utilisation. *Review of Managerial Science*, 11, 19–51. <https://doi.org/10.1007/s11846-015-0179-3>

3

Gaviria-Marin, M., Matute-Vallejo, J., & Baier-Fuentes, H. (2021). The effect of ICT and higher-order capabilities on the performance of Ibero-American SMEs. *Computational and Mathematical Organization Theory*, 27(4), 414–450. <https://doi.org/10.1007/s10588-021-09333-0>

Gil-Garcia, J. R., Dawes, S. S., & Pardo, T. A. (2018). Digital government and public management research: Finding the crossroads. *Public Management Review*, 20(5), 633–646. <https://doi.org/10.1080/14719037.2017.1327181>

González-Bustamante, B., & Aguilar, D. (2023). Territorial patterns of open e-government: Evidence from Chilean municipalities. *Political Research Exchange*, 5(1), 2194369. <https://doi.org/10.1080/2474736X.2023.2194369>

Greve, C. (2013). Ideas in Public Management Reform for the 2010s. Digitalization, Value Creation and Involvement. *Public Organization Review*, 15. <https://doi.org/10.1007/s11115-013-0253-8>

Harrison et al., T. M. (2011). Open government and e-government: Democratic challenges from a public value perspective. *Proceedings of the 12th Annual International Digital Government Research Conference: Digital Government Innovation in Challenging Times*, 245–253. <https://doi.org/10.1145/2037556.2037597>

Heo, U., & Hahm, S. D. (2015). Democracy, Institutional Maturity, and Economic Development. *Social Science Quarterly*, 96(4), 1041–1058.

Hepburn, P. (2014). Local Democracy in a Digital Age: Lessons for Local Government from the Manchester Congestion Charge Referendum. *Local Government Studies*, 40. <https://doi.org/10.1080/03003930.2013.829457>

Hilbert, M. (2020). Digital technology and social change: The digital transformation of society from a historical perspective. *Dialogues in Clinical Neuroscience*, 22(2), 189–194. <https://doi.org/10.31887/DCNS.2020.22.2/mhilbert>

Hoff, J., & Scheele, C. E. (2014). Theoretical Approaches to Digital Services and Digital Democracy: The Merits of the Contextual New Medium Theory Model. *Policy & Internet*, 6(3), 241–267. <https://doi.org/10.1002/1944-2866.POI368>

Hooks, D., Davis, Z., Agrawal, V., & Li, Z. (2022). Exploring factors influencing technology adoption rate at the macro level: A predictive model. *Technology in Society*, 68, 101826. <https://doi.org/10.1016/j.techsoc.2021.101826>

Jaganathan, M., Ahmad, S., Ishak, K. A., Nafi, S. N. M., & Uthamaputhran, L. (2018). DETERMINANTS FOR ICT ADOPTION AND PROBLEMS: EVIDENCE FROM RURAL BASED SMALL AND MEDIUM ENTERPRISES IN MALAYSIA. 22(4).

Karamagioli, E., & Koulolias, V. (2008). Challenges and barriers in implementing e-participation tools. One year of experience from implementing Gov2demoss in 64 municipalities in Spain. *International Journal of Electronic Governance*, 1. <https://doi.org/10.1504/IJEG.2008.022070>

Kim, S., & Lee, J. (2017). Citizen Participation and Transparency in Local Government: Do Participation Channels and Policy Making Phases Matter? Hawaii International Conference on System Sciences. <https://doi.org/10.24251/HICSS.2017.331>

Kim, S.-B., & Kim, D. (2020). ICT Implementation and Its Effect on Public Organizations: The Case of Digital Customs and Risk Management in Korea. *Sustainability*, 12, 3421. <https://doi.org/10.3390/su12083421>

Kolsaker, A., & Lee-Kelley, L. (2009). Singing From the Same Hymnsheet? The Impact of Internet Stakeholders on the Development of eDemocracy. *Proceedings of the European Conference on e-Government, ECEG*, 7, 155-162.

Kornberger, M., Meyer, R. E., Brandtner, C., & Höllerer, M. A. (2017). When Bureaucracy Meets the Crowd: Studying “Open Government” in the Vienna City Administration. *Organization Studies*, 38(2), 179-200. <https://doi.org/10.1177/0170840616655496>

Kraus, S., Breier, M., & Dasí-Rodríguez, S. (2020). The art of crafting a systematic literature review in entrepreneurship research. *International Entrepreneurship and Management Journal*, 16(3), 1023-1042. <https://doi.org/10.1007/s11365-020-00635-4>

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital Transformation: An Overview of the Current State of the Art of Research. *SAGE Open*, 11(3), 21582440211047576. <https://doi.org/10.1177/21582440211047576>

Kuchenmüller, T., Boeira, L., Oliver, S., Moat, K., El-Jardali, F., Barreto, J., & Lavis, J. (2022). Domains and processes for institutionalizing evidence-informed health policy-making: A critical interpretive synthesis. *Health Research Policy and Systems*, 20(1), 27. <https://doi.org/10.1186/s12961-022-00820-7>

Lee, Chang, K., & Berry, F. S. (2011). Testing the Development and Diffusion of E-Government and E-Democracy: A Global Perspective. *Public Administration Review*, 71(3), 444-454. <https://doi.org/10.1111/j.1540-6210.2011.02228.x>

Lindner, R., & Aichholzer, G. (2020). E-Democracy: Conceptual Foundations and Recent Trends. L. Hennen, I. van Keulen, I. Korthagen, G. Aichholzer, R. Lindner, & R. Ø. Nielsen, *European E-Democracy in Practice*. Springer International Publishing. https://doi.org/10.1007/978-3-030-27184-8_2

Ma, L. (2013). The Diffusion of Government Microblogging: Evidence from Chinese municipal police bureaus. *Public Management Review*, 15(2), 288-309. <https://doi.org/10.1080/14719037.2012.691010>

Mahmud, R. (2017). Understanding Institutional Theory in Public Policy. *Dynamics of Public Administration*, 34, 135. <https://doi.org/10.5958/0976-0733.2017.00011.6>

Malodia, S., Dhir, A., Mishra, M., & Bhatti, Z. A. (2021). Future of e-Government: An integrated conceptual framework. *Technological Forecasting and Social Change*, 173, 121102. <https://doi.org/10.1016/j.techfore.2021.121102>

Maultasch de Oliveira, G., & Welch, E. (2013). Social Media Use in Local Government: Linkage of Technology, Task, and Organizational Context. *Government Information Quarterly*, 30. <https://doi.org/10.1016/j.giq.2013.05.019>

Mergel, I. (2012). Social Media in the Public Sector: Participation, Collaboration, and Transparency in the Networked World.

Mergel, I., & Bretschneider, S. (2013). A Three-Stage Adoption Process For Social Media Use in Government. *Public Administration Review*, 73, 1-11. <https://doi.org/10.1111/puar.12021>

Metallo, C., Agrifoglio, R., Romanelli, M., & Fierro, P. (2018). E-Democracy and Local Public Administrations. A. Farazmand, *Global Encyclopedia of Public Administration, Public Policy, and Governance*. Springer International Publishing. https://doi.org/10.1007/978-3-319-20928-9_3218

Molero, G. D., Santarremigia, F. E., Poveda-Reyes, S., Mayrhofer, M., Awad-Núñez, S., & Kassabji, A. (2019). Key factors for the implementation and integration of innovative ICT solutions in SMEs and large companies involved in the multimodal transport of dangerous goods. *European Transport Research Review*, 11(1), 28. <https://doi.org/10.1186/s12544-019-0362-8>

Moody et al., C. (2012). Institutional Diffusion of eParticipation in the English Local Government: Is Central Policy the Way Forward? *Information Systems Management*, 29. <https://doi.org/10.1080/10580530.2012.716991>

Moon, M., & Norris, D. (2005). Does Managerial Orientation Matter? The Adoption of Reinventing Government and E-Government at the Municipal Level. *Inf. Syst. J.*, 15, 43-60. <https://doi.org/10.1111/j.1365-2575.2005.00185.x>

Morrisett, L. (2003). Technologies of freedom? Democracy and New Media, 21-31.

Mossberger, Wu & Crawford, K. (2013). Connecting citizens and local governments? Social media and interactivity in major U.S. cities. *Government Information Quarterly*, 30(4), 351-358. <https://doi.org/10.1016/j.giq.2013.05.016>

Muriithi, P., Horner, D., & Pemberton, L. (2016). Factors contributing to adoption and use of information and communication technologies within research collaborations in Kenya. *Information Technology for Development*, 22(sup1), 84-100. <https://doi.org/10.1080/02681102.2015.1121856>

Norris, D. (2010). E-Government 2020: Plus ça Change, Plus C'est La Meme Chose. *Public Administration Review*, 70, s180-s181. <https://doi.org/10.1111/j.1540-6210.2010.02269.x>

Paganelli, F., & Pecchi, F. (2013). Towards a Reference Model and a Web-Based Framework for eParticipation Services Design. *Information Resources Management Journal*, 26, 1-19. <https://doi.org/10.4018/irmj.2013040101>

Perkins, D., & Palmer, N. (2012). Technological Democratization: The Potential Role of ICT in Social and Political Transformation in China and Beyond. *Perspectives on Global Development and Technology*, 11, 456–479. <https://doi.org/10.1163/15691497-12341236>

Rhue, L., & Sundararajan, A. (2014). Digital Access, Political Networks and the Diffusion of Democracy. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1892669>

Ronchi, A. M. (2019). Being Human in the Digital Age: E-Democracy. A. M. Ronchi, *E-Democracy: Toward a New Model of (Inter)active Society*. Springer International Publishing. https://doi.org/10.1007/978-3-030-01596-1_1

Rose et al., J. (2014). Managing e-Government: Value positions and relationships. *Information Systems Journal*, 25. <https://doi.org/10.1111/isj.12052>

Royo, Yetano & Acerete, S. (2013). E-Participation and Environmental Protection: Are Local Governments Really Committed? *Public Administration Review*, 74. <https://doi.org/10.1111/puar.12156>

Sæbø et al., Ø. (2011). Understanding the dynamics in e-Participation initiatives: Looking through the genre and stakeholder lenses. *Government Information Quarterly - GOVT INFORM QUART*, 28, 416–425. <https://doi.org/10.1016/j.giq.2010.10.005>

Sauer, P. C., & Seuring, S. (2023). How to conduct systematic literature reviews in management research: A guide in 6 steps and 14 decisions. *Review of Managerial Science*, 17(5), 1899–1933. <https://doi.org/10.1007/s11846-023-00668-3>

Seuring, S., Yawar, S. A., Land, A., Khalid, R. U., & Sauer, P. C. (2020). The application of theory in literature reviews – illustrated with examples from supply chain management. *International Journal of Operations & Production Management*, 41(1), 1–20. <https://doi.org/10.1108/IJOPM-04-2020-0247>

Shirazi, F. (2008). The Contribution of ICT to Freedom and Democracy: An Empirical Analysis of Archival Data on the Middle East. *EJISDC: The Electronic Journal on Information Systems in Developing Countries*, ISSN 1681-4835, Vol. 35, 2008, 35. <https://doi.org/10.1002/j.1681-4835.2008.tb00243.x>

Shirazi, F. (2009). Measuring E-Democracy Opportunities: A Global Perspective. 700–709. https://doi.org/10.1007/978-3-642-02774-1_75

Sieweke, J. (2013). Imitation and Processes of Institutionalization – Insights from Bourdieu’s Theory of Practice (SSRN Scholarly Paper 2223963). <https://papers.ssrn.com/abstract=2223963>

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>

Sobaci, M. Z., & Eryigit, K. Y. (2015). Determinants of E-Democracy Adoption in Turkish Municipalities: An Analysis for Spatial Diffusion Effect. *Local Government Studies*, 41(3), 445–469. <https://doi.org/10.1080/03003930.2014.995296>

Soja, E., & Soja, P. (2020). Fostering ICT use by older workers: Lessons from perceptions of barriers to enterprise system adoption. *Journal of Enterprise Information Management*, 33(2), 407–434. <https://doi.org/10.1108/JEIM-12-2018-0282>

Solinthone, P., & Romyantseva, T. (2016). E-Government Implementation. *MATEC Web of Conferences*, 79, 01066. <https://doi.org/10.1051/mateconf/20167901066>

Steyn, J., & Johanson, G. (2010). ICTs and sustainable solutions for the digital divide: Theory and perspectives. Information Science Reference.

Susha, I., & Grönlund, Å. (2012). eParticipation research: Systematizing the field. *Government Information Quarterly*, 29(3), 373–382. <https://doi.org/10.1016/j.giq.2011.11.005>

Touray, R. (2021). A Review of Records Management in Organisations. *Open Access Library Journal*, 8(12), Article 12. <https://doi.org/10.4236/oalib.1108107>

Vinod Kumar, T. M. (2017). State of the Art of E-Democracy for Smart Cities. T. M. Vinod Kumar, E-Democracy for Smart Cities. Springer. https://doi.org/10.1007/978-981-10-4035-1_1

Warren M. E. (2017). A Problem-Based Approach to Democratic Theory. *American Political Science Review*, 111(1), 39–53. <https://doi.org/10.1017/S0003055416000605>

Wiredu, G. (2012). Information systems innovation in public organisations: An institutional perspective. *Information Technology & People*, 25, 188–206. <https://doi.org/10.1108/09593841211232703>

Yuan, Y.-P., Dwivedi, Y. K., Tan, G. W.-H., Cham, T.-H., Ooi, K.-B., Aw, E. C.-X., & Currie, W. (2023). Government Digital Transformation: Understanding the Role of Government Social Media. *Government Information Quarterly*, 40(1), 101775. <https://doi.org/10.1016/j.giq.2022.101775>

Zavattaro, S., & Sementelli, A. (2014). A critical examination of social media adoption in government: Introducing omnipresence. *Government Information Quarterly*, 31. <https://doi.org/10.1016/j.giq.2013.10.007>

Zhang, H., Xu, X., & Xiao, J. (2014). Diffusion of e-government: A literature review and directions for future directions. *Government Information Quarterly*, 31(4), 631–636. <https://doi.org/10.1016/j.giq.2013.10.013>

Zhao, F. (2012). An empirical study of cultural dimensions and e-government development: Implications of the findings and strategies. *Behaviour & Information Technology - Behaviour & IT*, 32, 1–13. <https://doi.org/10.1080/0144929X.2011.644580>

About the Authors

Nur Ajrun Khalid

Dr. Nur Ajrun Khalid obtained her Doctorate in Public Administration with expertise in the implementation of public policy and the use of quantitative research methodologies, particularly structural equation modeling. She is a Senior Lecturer in the Political Science Division at the School of Social Sciences, Universiti

Sains Malaysia, Penang. Her extensive experience in academia and administration led to her appointment as the Program Chairman of the Master of Public Administration (MPA). As chairman, she collaborated with the Malaysia Economic Planning Unit (EPU) as a facilitator for the Public Policy Seminar. Dr. Ajrun Khalid regularly publishes academic modules and journals and presents her research findings at conferences. She supervises doctoral research, contributing significantly to the academic community. In line with her expertise, she actively serves as a consultant and facilitator for the Penang Youth Development Corporation (PYDC) and the Penang Women Development Corporation (PWDC), both initiatives by the Penang State Government to develop talent and empower Malaysian youth. Additionally, she is a facilitator for awareness and education programs conducted by the Ministry of Youth and Sports Malaysia.

Yu Yang

Yu Yang is a Ph.D. student affiliated with the School of Social Sciences at Universiti Sains Malaysia. She has more than nine years of government experience in the fields of administration, sci-tech innovation, and political science. She was responsible for managing numerous government-wide projects in Shenzhen, China, and her research and publications cover a range of topics, including public policy, e-democracy, and sustainable development. In addition, she delves into the dynamic multicultural environment of Macau along with the cross-border entrepreneurship and sustainability in the Great Bay area of China.

Appendix 1

List of Extracted/Selected Articles: A total of 109 references were chosen.

Abdelsalam, H., Reddick, C., Gamal, S., & Al-shaar, A. (2013). Social media in Egyptian government websites: Presence, usage, and effectiveness. *Government Information Quarterly*, 30. <https://doi.org/10.1016/j.giq.2013.05.020>

Alathur, S., Ilavarasan, P. V., & Gupta, M. P. (2011). Citizen empowerment and participation in e-democracy: Indian context. *Proceedings of the 5th International Conference on Theory and Practice of Electronic Governance*, 11-19. <https://doi.org/10.1145/2072069.2072072>

Alexopoulos, C., Zuiderwijk, A., Charapabidis, Y., Loukis, E., & Janssen, M. (2014). Designing a Second Generation of Open Data Platforms: Integrating Open Data and Social Media. M. Janssen, H. J. Scholl, M. A. Wimmer, & F. Bannister, *Electronic Government* (230-241). Springer. https://doi.org/10.1007/978-3-662-44426-9_19

Al-Khasawneh, A., & Obeidallah, R. (2014). Challenges to the Successful Implementation of Online Voting for E-Democracy in Developing Countries' Initiatives: Jordan as a Case Study. *International Journal of Sociotechnology and Knowledge Development*, 6(3), 45-59. <https://doi.org/10.4018/ijskd.2014070103>

Ammar, C. E., & Profiroiu, C. M. (2020). Innovation In Public Administration Reform: A Strategic Reform Through Npm, Ict, And E-Governance. A Comparative Analysis Between Lebanon And Romania. *REVISTA ADMINISTRATIE SI MANAGEMENT PUBLIC*, 2020(35), 75-89.

Amoretti, F. (2007). International Organizations ICTs Policies: E-Democracy and E-Government for Political Development. *Review of Policy Research*, 24(4), 331-344. <https://doi.org/10.1111/j.1541-1338.2007.00286.x>

Arayankalam, J., & Krishnan, S. (2023). ICT-Based Country-Level Determinants of Social Media Diffusion. *Information Systems Frontiers*, 25(5), 1881-1902. <https://doi.org/10.1007/s10796-022-10341-x>

Åström, J., Hinsberg, H., Jonsson, M. E., & Karlsson, M. (2013). Crisis, Innovation and e-Participation: Towards a Framework for Comparative Research. M. A. Wimmer, E. Tambouris, & A. Macintosh, *Electronic Participation* (26-36). Springer. https://doi.org/10.1007/978-3-642-40346-0_3

Åström, J., Karlsson, M., Linde, J., & Pirannejad, A. (2012). Understanding the Rise of e-Participation in Non-Democracies: Domestic and International Factors. *Government Information Quarterly*, 29, 142-150. <https://doi.org/10.1016/j.giq.2011.09.008>

Bailey, A., & Ngwenyama, O. (2011). The challenge of e-participation in the digital city: Exploring generational influences among community telecentre users. *Telematics and Informatics*, 28, 204-214. <https://doi.org/10.1016/j.tele.2010.09.004>

-
- Baldwin, N., Gauld, R., & Goldfinch, S. (2012). What Public Servants Really Think of E-Government. *Public Management Review*, 14, 105–127. <https://doi.org/10.1080/14719037.2011.589616>
- Bannister, F., & Connolly, R. (2015). The great theory hunt: Does e-government really have a problem? *Government Information Quarterly*, 32(1), 1–11. <https://doi.org/10.1016/j.giq.2014.10.003>
- Bastick, Z. (2017). Digital Limits of Government: The Failure of E-Democracy. *Public Administration and Information Technology* (3–14). https://doi.org/10.1007/978-3-319-54142-6_1
- Bekkers, V., Edwards, A., & de Kool, D. (2013). Social media monitoring: Responsive governance in the shadow of surveillance? *Government Information Quarterly*, 30(4), 335–342. <https://doi.org/10.1016/j.giq.2013.05.024>
- Ben Ali, M. S. (2020). Does ICT promote democracy similarly in developed and developing countries? A linear and nonlinear panel threshold framework. *Telematics and Informatics*, 50, 101382. <https://doi.org/10.1016/j.tele.2020.101382>
- Bertot, J., Jaeger, P., & Hansen, D. (2012). The Impact of Polices on Government Social Media Usage: Issues, Challenges, and Recommendations. *Government Information Quarterly GOVT INFORM QUART*, 29. <https://doi.org/10.1016/j.giq.2011.04.004>
- Brainard, L., & McNutt, J. (2010). Virtual Government–Citizen Relations. *Administration & Society - ADMIN SOC*, 42, 836–858. <https://doi.org/10.1177/0095399710386308>
- Brown, M. M. (2003). Technology Diffusion and the “Knowledge Barrier”: The Dilemma of Stakeholder Participation. *Public Performance & Management Review*, 26(4), 345–359. <https://doi.org/10.1177/1530957603026004003>
- Bryer, T. A. (2011). The Costs of Democratization. *Administrative Theory & Praxis*, 33(3), 341–361. <https://doi.org/10.2753/ATP1084-1806330302>
- Bwalya, K. J. (2009). Factors Affecting Adoption of e-Government in Zambia. *THE ELECTRONIC JOURNAL OF INFORMATION SYSTEMS IN DEVELOPING COUNTRIES*, 38(1), 1–13. <https://doi.org/10.1002/j.1681-4835.2009.tb00267.x>
- Carrizales, T. (2008a). Critical Factors in an Electronic Democracy: A Study of Municipal Managers. *The Electronic Journal of e-Government*, 6.
- Carrizales, T. (2008b). Functions of E-Government: A Study of Municipal Practices. *State and Local Government Review*, 40. <https://doi.org/10.1177/0160323X0804000102>
- Carter, L., & Bélanger, F. (2005). The utilization of e-government services: Citizen trust, innovation and acceptance factors*. *Information Systems Journal*, 15(1), 5–25. <https://doi.org/10.1111/j.1365-2575.2005.00183.x>
-

-
- Chadwick, A. (2003). Bringing E-Democracy Back In: Why It Matters for Future Research on E-Governance. *Social Science Computer Review - SOC SCI COMPUT REV*, 21, 443-455. <https://doi.org/10.1177/0894439303256372>
- Chadwick, A. (2011). Explaining the Failure of an Online Citizen Engagement Initiative: The Role of Internal Institutional Variables. *Journal of Information Technology & Politics*, 8, 21-40. <https://doi.org/10.1080/19331681.2010.507999>
- Chen, Q., Xu, X., Cao, B., & Zhang, W. (2016). Social media policies as responses for social media affordances: The case of China. *Government Information Quarterly*, 33(2), 313-324. <https://doi.org/10.1016/j.giq.2016.04.008>
- Choi, J.-W. (2014). E-Government and Corruption: A Cross-Country Survey. *World Political Science*, 10. <https://doi.org/10.1515/wpsr-2014-0012>
- Christensen, H. (2013). Broadening Democratic Participation? An exploratory study of e-democracy in 188 Finnish municipalities. *Scandinavian Journal of Public Administration*, 17. <https://doi.org/10.58235/sjpa.v17i3.15724>
- Chun, S., & Cho, J.-S. (2012). E-Participation and Transparent Policy Decision Making. *Information Polity*, 17, 129-145. <https://doi.org/10.3233/IP-2012-0273>
- Clarke, A., & Margetts, H. (2014). Governments and Citizens Getting to Know Each Other? Open, Closed, and Big Data in Public Management Reform. *Policy & Internet*, 6(4), 393-417. <https://doi.org/10.1002/1944-2866.POI377>
- Collm, A., & Schedler, K. (2012). Managing Crowd Innovation in Public Administration. *International Public Management Review*, 13, 1-18.
- Congge, U., Guillamón, M.-D., Nurmandi, A., Salahudin, S., & Sihidi, I. (2023). Digital democracy: A systematic literature review. *Frontiers in Political Science*, 5. <https://doi.org/10.3389/fpos.2023.972802>
- Cook, S. J., An, S.-H., & Favero, N. (2019). Beyond Policy Diffusion: Spatial Econometric Models of Public Administration. *Journal of Public Administration Research and Theory*, 29(4), 591-608. <https://doi.org/10.1093/jopart/muy050>
- Cropf, R. (2018). The Challenges in Implementing E-Democracy in the United States (3-22). https://doi.org/10.1007/978-3-319-59442-2_1
- De Nicola, A., Villani, M. L., Brugnoli, M. C., & D'Agostino, G. (2016). A methodology for modeling and measuring interdependencies of information and communications systems used for public administration and eGovernment services. *International Journal of Critical Infrastructure Protection*, 14, 18-27. <https://doi.org/10.1016/j.ijcip.2016.06.001>
-

-
- De Vries, H., Bekkers, V., & Tummers, L. (2015). Innovation in the Public Sector: A Systematic Review and Future Research Agenda. *Public Administration*, 94. <https://doi.org/10.1111/padm.12209>
- De Vries, H., Tummers, L., & Bekkers, V. (2018). The Diffusion and Adoption of Public Sector Innovations: A Meta-Synthesis of the Literature. *Perspectives on Public Management and Governance*, 1(3), 159–176. <https://doi.org/10.1093/ppmgov/gvy001>
- Dias, G. P. (2020). Determinants of e-government implementation at the local level: An empirical model. *Online Information Review*, 44(7), 1307–1326. <https://doi.org/10.1108/OIR-04-2020-0148>
- Díaz-Díaz, R., & Pérez-González, D. (2016). Implementation of Social Media Concepts for e-Government: Case Study of a Social Media Tool for Value Co-Creation and Citizen Participation. *Journal of Organizational and End User Computing*, 28, 104–121. <https://doi.org/10.4018/JOEUC.2016070107>
- Distel, B. (2020). Assessing citizens' non-adoption of public e-services in Germany. *Information Polity*, 25(3), 339–360. <https://doi.org/10.3233/IP-190214>
- Distel, B., & Ogonek, N. (2016). To Adopt or not to Adopt: A literature Review on Barriers to Citizens' Adoption of E-Government Services. *European Conference on Information Systems*. <https://www.semanticscholar.org/paper/To-Adopt-or-not-to-Adopt%3A-a-literature-Review-on-to-Distel-Ogonek/99fee3692f3a6ba51860689e2ca55fd6fefa43f7>
- Đurman, P. (2020). Participation in Public Administration Revisited: Delimiting, Categorizing and Evaluating Administrative Participation. *Hrvatska i komparativna javna uprava*, 20(1), 79–120. <https://doi.org/10.31297/hkju.20.1.4>
- Ebrahim, Z., Irani, Z., & Alshawi, S. (2004). A Strategic Framework for E-government Adoption in Public Sector Organisations. *Americas Conference on Information Systems*. <https://www.semanticscholar.org/paper/A-Strategic-Framework-for-E-government-Adoption-in-Ebrahim-Irani/adc7b3a5e60912f2a71940a3edca0a058eded32d>
- Fan, B., & Luo, J. (2014). Benchmarking scale of e-government stage in Chinese municipalities from government chief information officers' perspective. *Information Systems and E-Business Management*, 12(2), 259–284. <https://doi.org/10.1007/s10257-013-0225-0>
- Fath-Allah, A., Cheikhi, L., Al-Qutaish, R., & Idri, A. (2014). E-Government Maturity Models: A Comparative Study. *International Journal of Software Engineering and Applications*, 5, 71–91. <https://doi.org/10.5121/ijsea.2014.5306>
- Ferro, E., Loukis, E. N., Charalabidis, Y., & Osella, M. (2013). Policy making 2.0: From theory to practice. *Government Information Quarterly*, 30(4), 359–368. <https://doi.org/10.1016/j.giq.2013.05.018>
-

-
- Ganapati, S., & Reddick, C. (2014). The Use of ICT for Open Government in U. S. Municipalities. *Public Performance & Management Review*, 37, 365–387. <https://doi.org/10.2753/PMR1530-9576370302>
- Gil-Garcia, J. R., Dawes, S. S., & Pardo, T. A. (2018). Digital government and public management research: Finding the crossroads. *Public Management Review*, 20(5), 633–646. <https://doi.org/10.1080/14719037.2017.1327181>
- Gupta, D. K., & Biswas, A. K. (2021). The Institutionalization of e-Democracy: Challenges, Risks and Future Directions in an Indian Context. *JeDEM - eJournal of eDemocracy and Open Government*, 13(1), Article 1. <https://doi.org/10.29379/jedem.v13i1.622>
- Gurstein, B. (2019). E-Democracy and Information Society*. <https://doi.org/10.1109/ICEDEG.2019.8734299>
- Hands, J. (2005). E-deliberation and local governance: The role of computer mediated communication in local democratic participation in the United Kingdom. *First Monday*. <https://doi.org/10.5210/fm.v10i7.1258>
- Harrison, T. M., Guerrero, S., Burke, G. B., Cook, M., Cresswell, A., Helbig, N., Hrdinová, J., & Pardo, T. (2011). Open government and e-government: Democratic challenges from a public value perspective. *Proceedings of the 12th Annual International Digital Government Research Conference: Digital Government Innovation in Challenging Times*, 245–253. <https://doi.org/10.1145/2037556.2037597>
- Helbig, N., Ramón Gil-García, J., & Ferro, E. (2009). Understanding the complexity of electronic government: Implications from the digital divide literature. *Government Information Quarterly*, 26(1), 89–97. <https://doi.org/10.1016/j.giq.2008.05.004>
- Hepburn, P. (2014). Local Democracy in a Digital Age: Lessons for Local Government from the Manchester Congestion Charge Referendum. *Local Government Studies*, 40. <https://doi.org/10.1080/03003930.2013.829457>
- Hoff, J., & Scheele, C. E. (2014). Theoretical Approaches to Digital Services and Digital Democracy: The Merits of the Contextual New Medium Theory Model. *Policy & Internet*, 6(3), 241–267. <https://doi.org/10.1002/1944-2866.POI368>
- Hwang, J., & Mohammed, A. (2008). Approaching e-Democracy: A Case Study Analysis from Jordan. *Convergence Information Technology, International Conference on*, 2, 932–939. <https://doi.org/10.1109/ICCIT.2008.397>
- Janowski, T. (2016). Implementing Sustainable Development Goals with Digital Government – Aspiration-capacity gap. *Government Information Quarterly*, 33(4), 603–613. <https://doi.org/10.1016/j.giq.2016.12.001>
-

-
- Kapsa, I. (2021). Analytical framework for researching citizen participation in the era of e-democracy. *Przegląd Europejski*, 2021, 11–24. <https://doi.org/10.31338/1641-2478pe.4.21.1>
- Karamagioli, E., & Koulolias, V. (2008). Challenges and barriers in implementing e-participation tools. One year of experience from implementing Gov2demoss in 64 municipalities in Spain. *International Journal of Electronic Governance*, 1. <https://doi.org/10.1504/IJEG.2008.022070>
- Kardan, A. A., & Sadeghiani, A. (2011). Is e-government a way to e-democracy?: A longitudinal study of the Iranian situation. *Government Information Quarterly*, 28(4), 466–473. <https://doi.org/10.1016/j.giq.2010.12.007>
- Katsonis, M., & Botros, A. (2015). Digital Government: A Primer and Professional Perspectives. *Australian Journal of Public Administration*, 74(1), 42–52. <https://doi.org/10.1111/1467-8500.12144>
- Kneuer, M. (2016). E-democracy: A new challenge for measuring democracy. *International Political Science Review / Revue internationale de science politique*, 37(5), 666–678.
- Kompella, L. (2017). E-Governance systems as socio-technical transitions using multi-level perspective with case studies. *Technological Forecasting and Social Change*, 123, 80–94. <https://doi.org/10.1016/j.techfore.2017.06.024>
- Kreiss, D. (2015). The Problem of Citizens: E-Democracy for Actually Existing Democracy. *Social Media + Society*, 1(2), 2056305115616151. <https://doi.org/10.1177/2056305115616151>
- Kukovič, S. (2015). NEW FORMS OF PARTICIPATORY DEMOCRACY AT LOCAL LEVEL: eCITIZENS? <https://www.semanticscholar.org/paper/NEW-FORMS-OF-PARTICIPATORY-DEMOCRACY-AT-LOCAL-Kukovi%C4%8D/da6a98ea35b986ecc6490644bdfa018281aed61c>
- Larsson, H., & Grönlund, Å. (2014). Future-oriented eGovernance: The sustainability concept in eGov research, and ways forward. *Government Information Quarterly*, 31(1), 137–149. <https://doi.org/10.1016/j.giq.2013.07.004>
- Lee, C., Chang, K., & Berry, F. S. (2011). Testing the Development and Diffusion of E-Government and E-Democracy: A Global Perspective. *Public Administration Review*, 71(3), 444–454. <https://doi.org/10.1111/j.1540-6210.2011.02228.x>
- Lee, J. B., & Porumbescu, G. A. (2019). Engendering inclusive e-government use through citizen IT training programs. *Government Information Quarterly*, 36(1), 69–76. <https://doi.org/10.1016/j.giq.2018.11.007>
- Liden, G. (2012). Is e-democracy more than democratic? - An examination of the implementation of socially sustainable values in e-democratic processes. 10(1).
- Lindner, R., & Aichholzer, G. (2020). E-Democracy: Conceptual Foundations and Recent Trends.
-

-
- L. Hennen, I. van Keulen, I. Korthagen, G. Aichholzer, R. Lindner, & R. Ø. Nielsen, *European E-Democracy in Practice* (11–45). Springer International Publishing. https://doi.org/10.1007/978-3-030-27184-8_2
- Luna-Reyes, L. F., & Gil-Garcia, J. R. (2014). Digital government transformation and internet portals: The co-evolution of technology, organizations, and institutions. *Government Information Quarterly*, 31(4), 545–555. <https://doi.org/10.1016/j.giq.2014.08.001>
- Mahrer, H., & Krimmer, R. (2005). Towards the enhancement of e-democracy: Identifying the notion of the ‘middleman paradox’. *Information Systems Journal*, 15(1), 27–42. <https://doi.org/10.1111/j.1365-2575.2005.00184.x>
- Mambrey, P. (2004). Networked ICT to Foster e-Democracy? R. Traunmüller, *Electronic Government* (31–35). Springer. https://doi.org/10.1007/978-3-540-30078-6_6
- Matteucci, N., Santolini, R., & Di Fabio, S. (2022). ICT diffusion in public administrations and business dynamics: Evidence from Italian municipalities. *Annals of Public and Cooperative Economics*, n/a(n/a). <https://doi.org/10.1111/apce.12400>
- Meijer, A. (2015). E-governance innovation: Barriers and strategies. *Government Information Quarterly*, 32(2), 198–206. <https://doi.org/10.1016/j.giq.2015.01.001>
- Moon, M. J. (2002). The Evolution of E-Government among Municipalities: Rhetoric or Reality? *Public Administration Review*, 62(4), 424–433. <https://doi.org/10.1111/0033-3352.00196>
- Moon, M. J., & Norris, D. F. (2005). Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level*. *Information Systems Journal*, 15(1), 43–60. <https://doi.org/10.1111/j.1365-2575.2005.00185.x>
- Mossberger, K., Wu, Y., & Crawford, J. (2013). Connecting citizens and local governments? Social media and interactivity in major U.S. cities. *Government Information Quarterly*, 30(4), 351–358. <https://doi.org/10.1016/j.giq.2013.05.016>
- Netchaeva, I. (2002). E-Government and E-Democracy: A Comparison of Opportunities in the North and South. *Gazette* (Leiden, Netherlands), 64(5), 467–477. <https://doi.org/10.1177/17480485020640050601>
- Okada, K., & Samreth, S. (2023). Do Political Regimes Matter for Technology Diffusion? *Journal of the Knowledge Economy*, 1–14. <https://doi.org/10.1007/s13132-023-01266-0>
- Oliveira, G. H. M., & Welch, E. W. (2013). Social media use in local government: Linkage of technology, task, and organizational context. *Government Information Quarterly*, 30(4), 397–405. <https://doi.org/10.1016/j.giq.2013.05.019>
- Oni, A., Ayo, C., Oni, S., & Mbarika, V. (2016). Strategic framework for e-democracy development and sustainability. *Transforming Government: People, Process and Policy*, 10, 457–477. <https://doi.org/10.1108/TG-09-2015-0040>
-

-
- Ospina, M. L., & Pinzon, B. H. D. (2018). Theoretical Perspectives on Usage of e-Government Services: A Literature Review. *Americas Conference on Information Systems*. <https://www.semanticscholar.org/paper/Theoretical-Perspectives-on-Usage-of-e-Government-A-Ospina-Pinzon/cda044f077a82797af2a4d6f982da6144ee0a85e>
- Päivärinta, T., & Sæbø, Ø. (2006). Models of E-Democracy. *Communications of the Association for Information Systems*, 17, 818–840. <https://doi.org/10.17705/1CAIS.01737>
- Palm, A. (2022). Innovation systems for technology diffusion: An analytical framework and two case studies. *Technological Forecasting and Social Change*, 182, 121821. <https://doi.org/10.1016/j.techfore.2022.121821>
- Park, H., & Samijadi, M. F. (2021). Citizens Perception of E-Government in Korea: Importance-Performance Analysis on Users Satisfaction and Behavioral Intention. *Journal of Public Administration and Governance*, 11(2), 357. <https://doi.org/10.5296/jpag.v11i2.18677>
- Prastya, D., Misran, & Nurmandi, A. (2021). A bibliometric analysis of E-Democracy on government research. *Jurnal Ilmiah Mimbar Demokrasi*, 20, 71–80. <https://doi.org/10.21009/jimd.v20i2.19772>
- Roblek, V., Pejić Bach, M., & Meško, M. (2022). Direct Decision-Making Mechanisms and E-Democracy Tools: Cases of Austria, Croatia, Greece, Italy, and Slovenia. *Rivista Trimestrale Di Scienza Dell'Amministrazione*, 2, 1. <https://doi.org/10.32049/RTSA.2022.2.05>
- Rupp, C. (2004). E-Democracy in E-Austria. *Electronic Voting in Europe*. <https://www.semanticscholar.org/paper/E-Democracy-in-E-Austria-Rupp/dec-beee7e303f90ffe75ec674735e8bcb60a3cd>
- Sánchez, I., Rodríguez-Domínguez, L., & Frias-Aceituno, J.-V. (2014). Electronic Administration Styles and Their Determinants. Evidence from Spanish Local Governments. *Transylvanian Review of Administrative Sciences*, 41, 90–108.
- Santos, H., & Tonelli, D. (2014). Possibilities and Limits of E-participation: A Systematic Review of E-democracy.
- Savoldelli, A., Codagnone, C., & Misuraca, G. (2014). Understanding the e-government paradox: Learning from literature and practice on barriers to adoption. *Government Information Quarterly*, 31, S63–S71. <https://doi.org/10.1016/j.giq.2014.01.008>
- Schelin, S., & Garson, G. D. (2004). E-government. *The Internet Encyclopedia*. John Wiley & Sons, Ltd. <https://doi.org/10.1002/047148296X.tie050>
- Seo, D., & Bernsen, M. (2016). Comparing attitudes toward e-government of non-users versus users in a rural and urban municipality. *Government Information Quarterly*, 33(2), 270–282. <https://doi.org/10.1016/j.giq.2016.02.002>
-

-
- Shirazi, F. (2009). Measuring E-Democracy Opportunities: A Global Perspective. 700-709. https://doi.org/10.1007/978-3-642-02774-1_75
- Shirazi, F., Ngwenyama, O., & Morawczynski, O. (2010). ICT expansion and the digital divide in democratic freedoms: An analysis of the impact of ICT expansion, education and ICT filtering on democracy. *Telematics and Informatics*, 27(1), 21-31. <https://doi.org/10.1016/j.tele.2009.05.001>
- Shiyan, A., Azarova, A., Nikiforova, L. O., Tkachuk, L. M., & Azarova, V. V. (2020). Modeling Communication Between the Public and the Authorities while Implementing Innovative Projects in the Context of E-Democracy and Public Administration. *Science and innovation*, 16, 18-27. <https://doi.org/10.15407/scine16.06.018>
- Sobaci, M. Z., & Eryigit, K. Y. (2015). Determinants of E-Democracy Adoption in Turkish Municipalities: An Analysis for Spatial Diffusion Effect. *Local Government Studies*, 41(3), 445-469. <https://doi.org/10.1080/03003930.2014.995296>
- Song, Z., Wang, C., & Bergmann, L. (2020). China's prefectural digital divide: Spatial analysis and multivariate determinants of ICT diffusion. *International Journal of Information Management*, 52, 102072. <https://doi.org/10.1016/j.ijinfomgt.2020.102072>
- Spirakis, G., Spiraki, C., & Nikolopoulos, K. (2010). The impact of electronic government on democracy: E-democracy through e-participation. *Electronic Government, an International Journal*, 7(1), 75. <https://doi.org/10.1504/EG.2010.029892>
- Stahl, B. (2007). The Paradigm of E-Commerce in E-Government and E-Democracy. <https://doi.org/10.4018/978-1-59904-654-9.ch014>
- 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>
- Tambouris, E., Liotas, N., Kaliviotis, D., & Tarabanis, K. (2007). A framework for scoping eParticipation. *Digital Government Research*. <https://www.semanticscholar.org/paper/A-framework-for-scoping-eParticipation-Tambouris-Liotas/f23a39a14d0c8a9f18b2dc4d300df8959ae181c6>
- Tolbert, C. J., & Mossberger, K. (2006). The Effects of E-Government on Trust and Confidence in Government. *Public Administration Review*, 66(3), 354-369. <https://doi.org/10.1111/j.1540-6210.2006.00594.x>
- Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government – A literature review. *Government Information Quarterly*, 36(2), 167-178. <https://doi.org/10.1016/j.giq.2019.01.001>
- Vonk, G., Geertman, S., & Schot, P. (2007). New Technologies Stuck in Old Hierarchies: The Diffusion of Geo-Information Technologies in Dutch Public Organizations. *Public Administration Review*, 67(4), 745-756. <https://doi.org/10.1111/j.1540-6210.2007.00757.x>
-

Wen J., Hussain H., Jiang R., & Waheed J. (2023). Overcoming the Digital Divide With ICT Diffusion: Multivariate and Spatial Analysis at China's Provincial Level. *SAGE Open*, 13(1), 21582440231159323–21582440231159323.

West, D. M. (2004). E-Government and the Transformation of Service Delivery and Citizen Attitudes. *Public Administration Review*, 64(1), 15–27. <https://doi.org/10.1111/j.1540-6210.2004.00343.x>

Zhang, H., Xu, X., & Xiao, J. (2014). Diffusion of e-government: A literature review and directions for future directions. *Government Information Quarterly*, 31(4), 631–636. <https://doi.org/10.1016/j.giq.2013.10.013>
