REVIEW ARTICLE

Digital governance in the Philippines: a scoping review of current challenges and opportunities

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Abstract

The scoping review summarizes the present state of digital governance in the Philippines and examines its effects alongside possible improvements and prospects. The analysis of thirteen documents spanning from 2020–2025 shows digital governance can improve public service delivery through responsiveness and accessibility along with efficiency. To succeed, digital governance must overcome adoption barriers and financial capability challenges as well as digital literacy deficiencies and ICT infrastructure issues. The discovery of new e-government phenomena such as blockchain and artificial intelligence revealed future research gaps. Stakeholders including policymakers can utilize these findings to bridge digital governance gaps and establish an inclusive government that delivers responsive and effective public services to its citizens.

Keywords: digital governance; public service delivery; digital divide; AI, blockchain

Introduction

Digital governance is transforming public service delivery into technological and electronic based worldwide, promising increased efficiency, effectiveness, economical, transparency, and citizen engagement. The government has focused on initiatives to allow citizens to unite in the implementation of various government services to ensure a harmonious and smoother inter-action. The shift of interface from manual processes to digitalization or information technology-based system has its purpose in efficient, effective, and enhanced administration making public service delivery, making it a worthwhile investment for the future generation. (Alam, 2010). According to the World Bank (2020) in Ease of Doing Business summary, Philippines ranked 95th out of 190 economies worldwide; it shows that a significant improvement from its previous ranking of 124, indicated a positive

development in terms of ease in doing business, particularly in starting a private industry and dealing with business permit along with other licenses. In other words, the digital era has revolutionized the process of government so much that it interacts with the citizens and business owners. In an attempt to help the government reduce the bureaucracy, save costs, and increase citizen engagement, the government should initiate various forms of electronic governance (e-governance) mechanism such as online services delivery platforms that can improve efficiency, effectiveness, transparency, accountability, and accessibility of public services. The Philippine government prioritizes digital technology adoption because the nation rapidly develops and maintains high internet usage among its population. The Philippine government has launched multiple initiatives for better digital service delivery such as the National Broadband Plan and the eGov Philippine program. Future actions need successful direction through detailed evaluation of the present conditions of the said initiatives along with current challenges and potential prospects. This scoping review provides a synthesis of existing literatures to give an extensive knowledge of digital governance in the Philippines, identify research gaps, and inform policy and practice.

This scoping review comprehensively analyzes digital governance in the Philippines, examining its benefits, challenges, ethical implications, and future trends. To achieve this, the researchers addressed the following review questions:

RQ#1: What are the key perceived impacts (benefits and challenges) of digital governance initiatives in the Philippines?

RQ#2: How can digital governance in the Philippines be enhanced to improve public service delivery and citizen engagement while addressing ethical and social implications?

RQ#3: What are the emerging trends in the field of digital governance in the Philippines?

Methodology

a) Protocol:

This scoping review was guided by a detailed research protocol developed beforehand. The authors confirm that this report accurately reflects the review process, ensuring transparency and precision. The review strictly adhered to the protocol, and any unforeseen changes to the original plan have been clearly documented. This rigorous approach ensures the reliability and integrity of the review findings. This scoping review was conducted according to the PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) (Morgan Lee, James Gambiza, 2022) guidelines to ensure transparent and comprehensive reporting (Tricco et al., 2018).

b) Search Eligibility Criteria:

Studies were published in English language between 2020 and 2025 focusing on digital governance initiatives in the Philippines were included. Gray literature, such as government reports, policy documents, and white papers from relevant organizations was also considered. This review used the "population, concept, and context" (PCC) framework to determine which studies to include and how to organize the overall analysis (see Table 1)

Table 1: Eligibility Criteria

Criterion	Inclusion	Exclusion	Rationale
Population	Studies focusing on citizens, government officials, businesses, or other participants involved in or impacted by digital governance initiatives in the Philippines	Studies focusing solely on technology adoption without explicitly addressing governance aspects	To ensure the focus remains on the governance implications of digital technologies in the Philippine context
Concept	Studies exploring key concepts of digital governance such as e-government, online service delivery, citizen engagement, open data, digital inclusion, and cybersecurity	Studies focusing solely on technical aspects of ICT without addressing governance dimensions	To maintain a focus on the governance aspects of digital technologies
Context	Studies examining digital governance initiatives in the specific context of the Philippines	Studies focusing on digital governance in other countries without specific reference to the Philippines	To establish applicability of the Philippine situation and avoid generalizations from other settings
Language	Studies published in English language	Studies published in other languages	To ensure accessibility and comprehensibility of research findings

Continue table 1. . . . . .

Time span	Studies published between 2020 and 2025	Studies published before 2020	To acquire the most recent and pertinent research on digital governance in the Philippines, reflecting current trends and developments
Types of sources	Peer-reviewed journal articles, government reports, policy documents, white papers, conference proceedings	Editorials, opinion pieces, news articles, blog posts	To prioritize credible and reliable sources of information with a focus on research-based evidence and official government publications
Geographical location	Studies focusing on digital governance initiatives at the national level or within specific regions or localities in the Philippines	Studies with a broader geographical scope that do not provide specific insights into the Philippine context	To ensure relevance to the specific context of digital governance in the Philippines
Database	Scopus, Google Scholar, ResearchGate, and relevant government websites (e.g., Official Gazette, Department of Information and Communications Technology website)	Databases or websites with limited relevance to digital governance or the Philippines	To ensure comprehensive coverage of relevant literature from reputable academic databases and official government sources
Areas of Research	Public Administration (e-governance or digital governance) Social Sciences Business Management Engineering Technology Computer Science	Studies that do not directly address any of the key areas of research related to digital governance in the Philippines	To ensure the review captures a broad range of perspectives and issues relevant to the research objectives

c)   Search Strategy:

A comprehensive search strategy was developed to identify relevant studies (Moradpour et al., 2025) on digital governance in the Philippines. The search was conducted on January 30, 2025, across multiple electronic databases including Scopus, Research Gate, and Google Scholar, to ensure a broad coverage of academic literature. In addition, relevant government websites, such as the Official Gazette of the Philippines and the Department of Information and Communications Technology (DICT) website were browsed for policy documents, reports, and other publications related to digital governance initiatives.

The search utilized a variety of keywords and search terms in various combinations to capture different aspects of digital governance. These keywords included terms like "digital governance," "e-governance," "Philippines," "e-government," "public service delivery," "citizen engagement," "digital divide," "data privacy," and "cybersecurity." Examples of search strings used in the databases include ("digital governance" OR "e-governance") AND ("Philippines" OR "Filipino") AND ("e-government" OR "electronic government") AND ("public service delivery" OR "online services") AND ("Philippines").

The search was confined to research released between 2020 & 2025 in order to present the most recent and important studies, the said research must strictly be published in English to ensure accessibility and comprehensibility of research findings. To improve the overall comprehensiveness of the search, reference list checking and citation searching were conducted to identify additional relevant publications. This multi-faceted search strategy aimed to identify all relevant abstract of digital governance in the Philippines for inclusion in the scoping review.

d) Data Extraction

The data extraction process is guided by the research objectives and the key chapters found in the literature. Prior to the formal review, preliminary searches helped the researchers determine the structure for data extraction, focusing on three key areas:

1. **Data from the reviewed documents related to perceived impacts of digital governance:** This included extracting information on the types of digital governance initiatives, the technologies used, the stakeholders involved, the reported benefits and challenges, and the overall impact on public service delivery and citizen engagement.

2. **Data from reviewed publications regarding strategies and recommendations for enhancing digital governance:** This involved extracting information on recommendations for improving digital governance initiatives, addressing challenges, and promoting wider adoption of digital tools and platforms.

3. **Data on ethical and social implications, emerging trends:** This included extracting information on ethical considerations related to data confidentiality, security, and inclusion, as well as emerging trends like the service of AI as well as big data in government.
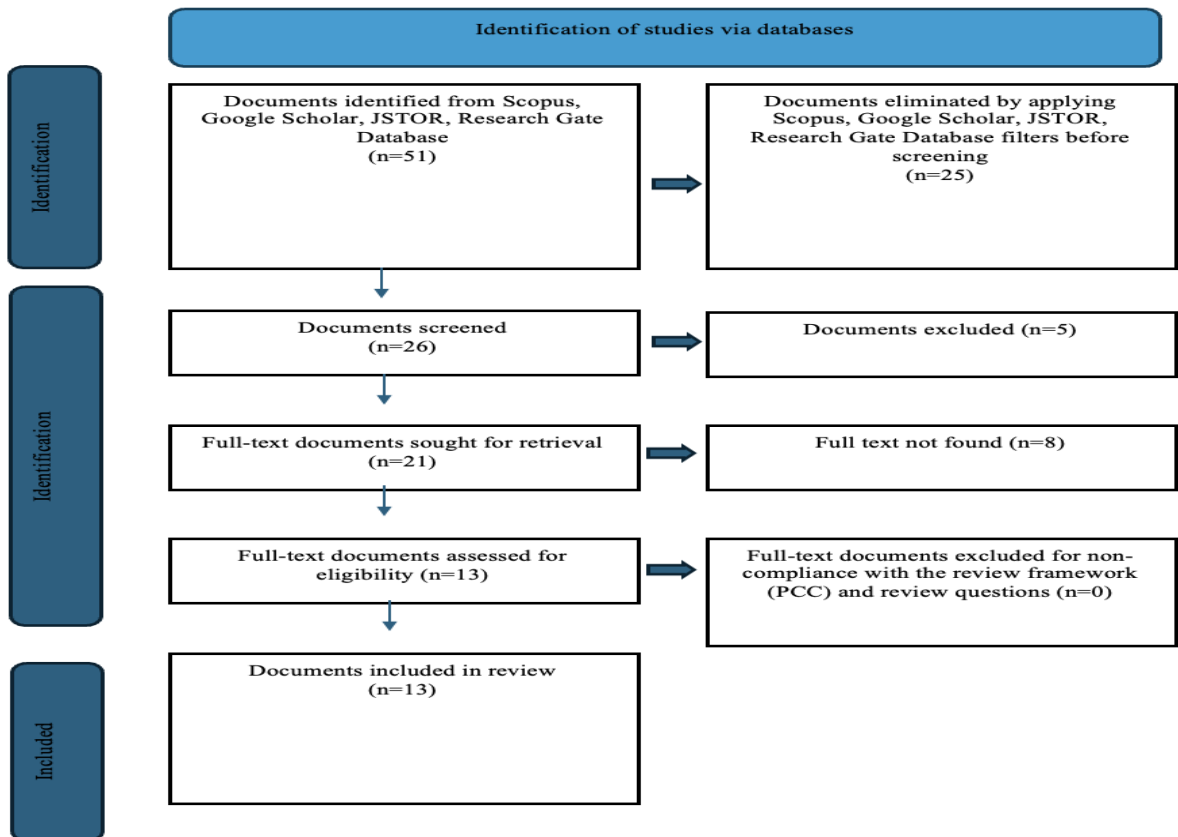
All extracted data were double-checked by the researchers to ensure accuracy and consistency. The data were then organized and categorized into the relevant thematic clusters identified in the Results section. The systematic data extraction process made certain that the review captured comprehensive and relevant information from the included studies.

Results

a) Search and Selection Results

The final search was conducted on February 17, 2025. Initially, a total of 51 records were obtained from the chosen databases and government websites. After applying filters for language, subject area, and time span, the number of records were reduced to 26.

Figure 1: Selection of Publication for Review (PRISMA-ScR Flow Diagram)

Titles and abstracts were then evaluated for applicability, and 5 records were removed as they were deemed irrelevant to the research questions. Full texts were retrieved for the remaining 21 records, and another 8 were disapproved after a detailed assessment of their eligibility. This left a final sample of 13 studies included in the scoping review. This search and selection procedure is shown schematically in the PRISMA flow diagram (Figure 1).

b) Documents Ultimately Included in the Review

The review yielded 8 articles, three reviews, and one documents from website meeting the objective and eligibility criteria (Table 2).

Table 2: Documents included in the review

Reference	Publication Title
(Kiram et al., 2025)	Data Governance and Privacy in Sulu, Philippines: Building Trust and Ensuring Accountability in Digital Public Delivery
1. (De Castro & De Castro, 2022)	E-Government Initiatives of Local Governments in the Philippines
2. (Abales et al., 2023)	Policy Capacity and E-Governance: Assessment of the E-Government services of Valencia City, Bukidnon
3. (Indama & Salain, 2023)	Exploring the Impact of Digital Technology on Public Service Delivery and Citizen Engagement
4. (Barrios & Moreno, 2024)	Evaluating the Efficacy of e-Government Initiatives in Addressing Local Governance Challenges in the City of Zamboanga, Philippines
5. (Bajar, 2020)	E-Government in the Philippines: An Assessment
6. (Ona S. E., 2020)	Embracing Digital Government in the time of COVID-19: Opportunities and Challenges in the Philippines
7. (Dacer et al., 2025)	Barriers, Strategies and Interventions of Digital Governance in the Schools Division Office of Camarines Norte Philippines: A Case Study
8. (Cabughawang et al., 2023)	Towards the Development of Blockchain System for Philippine Government Process for Enhanced Transparency and Verifiability
	Reviews
1. (Palma et al., 2023)	e-Governance: A Critical Review of e-Government Systems Features and Frameworks for Success
2. (Indama A. C., 2023)	The Effectiveness of E-Government Initiatives in Improving Public Service Delivery: A Review of the Literature
3. (Treceñe, 2021)	The Digital Transformation Strategies of the Philippines from 1992 to 2022: A Review
	Documents from website

| 1. (Agcaoli, 2020) | Digital divide, Lack of Infrastructure hamper e-government system |

c) Bibliometric Characteristics of the Research Field

The 13 documents included in the present review were analyzed on the following aspects: yearly distribution; types of documents; authors; countries of affiliation; journals.

Geographically, the breakdown of the publications under review embraced the Luzon with 4 articles, 1 document from website, and 1 review; Visayas and Mindanao with 4 articles and 2 reviews, and the rest are outside of the Philippines with 1 article. Although 10 (76.92%) out of 13 publications belonged to Social Sciences/Public Administration, they and the remaining documents were simultaneously attributed to other areas: Computer Science (2 document or 15.38%), and Engineering Technology (1 documents or 7.69%)

d) Hypothetical Thematic Clusters

During the preliminary search phase, the researchers identified potential thematic clusters that were further refined and explored during the process of evaluating studies and collecting data. After iterative revisions, the following three thematic clusters were finalized for scoping review: (1) Impacts of Digital Governance; (2) Enhancing Digital Governance; (3) Emerging Trends (Table 3). These three clusters comprehensively address the key aspects of digital governance in the Philippines, aligning with three research questions guiding this review. It covers the main findings extracted from 13 studies included in the review, providing a structured and organized frame for analyzing and synthesizing the literature.

Table 3: Hypothetic Thematic Clusters

Thematic Clusters	Cluster Descriptions
Cluster One 1. Impacts of Digital Governance (Benefits and Challenges)	Examines the perceived impacts (benefits and challenges) appertaining to digital governance in the Philippines, including its effects on service delivery, citizen engagement, efficiency, transparency, and equity.
Cluster Two 2. Improving Digital Governance	Focuses on strategies and recommendations for enhancing digital governance in the Philippines, including policy frameworks, capacity building, and ethical considerations.
Cluster Three 3. Emerging Trends of Digital Governance	Identifies emerging trends priorities in digital governance in the Philippines, including new technologies and areas for further investigation.

Cluster One: Perceived impacts (benefits and challenges) of digital governance in the Philippines.

The raw data on perceived impacts (benefits and challenges) of digital governance in Philippines extracted from the reviewed publications are stated in table 5. In describing this direction of the study, research boiled down to the most prominent features and characteristics articulated in the reviewed publications to the following:

Table 4: Mapping the publications to the cluster

SN	Authors and Year	Cluster 1 Impacts of Digital Governance (Benefits and Challenges)	Cluster 2 Improving Digital Governance	Cluster 3 Emerging Trends of Digital Governance
1.	(Kiram et al., 2025)	✓	✓	
2.	(Dacer et al., 2025)	✓	✓	
3.	(Barrios & Moreno, 2024)	✓	✓	✓
4.	(Cabughawang et al., 2023)			✓
5.	(Indama A. C., 2023)	✓		
6.	(Indama & Salain, 2023)	✓		
7.	(Palma et al., 2023)	✓	✓	
8.	(Abales et al., 2023)	✓	✓	
9.	(De Castro & De Castro, 2022)	✓	✓	
10.	(Treceñe, 2021)		✓	
11.	(Ona S. E., 2020)		✓	
12.	(Bajar, 2020)		✓	
13.	(Agcaoli, 2020)	✓		
Total		9	9	2

Improved Public Service Delivery

Enhanced access, efficiency, and quality of public services. Barrios & Moreno (2024) note improved administrative efficiency and reduced processing times. Indama A. C. (2023) states that e-government can improve public service delivery.

Increased Transparency and Accountability

Creating government processes and data more accessible for the public. Barrios & Moreno (2024) mentions that e-Government initiatives, including the e-Services Portal and Open Data Portal have significantly enhanced administrative efficiency, reduced processing times, and improved transparency can improve transparency and accountability. Palma et al. (2023) highlights the government's acknowledgement of technology's role in improving public service efficiency, transparency, and citizen participation, leading to the implementation of various initiatives and focus on digital transformation within public sector.

Enhanced Citizen Engagement

Facilitating greater citizen participation in government decision-making. Indama A. C. (2023) highlights that e-government initiatives have the potential to improve public service delivery by enhancing access, quality, and citizen engagement.

ICT Infrastructure Deficiencies

A recurring challenge was the result of inadequate infrastructure that failed to meet satisfactory standards, including unreliable and slow access to the internet, limited access to hardware and software, and insufficient technological resources. This is highlighted by: Camarines Norte SDO case study emphasizes infrastructure as a primary barrier (Dacer et al., 2025) as same with the study of Palma et al. (2023) that general review points out infrastructure limitations, especially in rural areas. Explicitly mentions infrastructure inadequacy as a major hurdle (Agcaoli, 2020).

Digital Literacy and Skills Gap

Several studies emphasized the lack of digital literacy among citizens, government employees, and even teachers. This includes the lack of skills in using digital tools and a general resistance to adopting new technologies. Kiram et al. (2025) mentioned lack of digital literacy in Sulu. Dacer et al. (2025) highlighted low digital literacy and resistance to change among teachers and school leaders. Abales et al. (2023) noted citizens' hesitation due to limited online technology skills.

Institutional and Financial Constraints

This includes issues like limited funding for e-government projects, complex procurement processes, and the lack of dedicated IT personnel. Dacer et al. (2025) identified institutional constraints including procurement challenges and funding inadequacies. De Castro & De Castro (2022) highlighted the shortage of funding and absence of website managers in some local governments.

Resistance to Change

There has been general resistance to adopting new technologies and processes within government and among citizens. Dacer et al. (2025) specifically mention resistance to change as a key challenge. Barrios & Moreno (2024) note resistance to change impacting the effectiveness of e-government tools and systems.

Data Privacy and Security Concerns

There were reports about data misuse and the need for robust data protection measures. Kiram et al. (2025) mention concerns about data misuse in Sulu. Indama & Salain (2023) highlighted concerns involving data privacy and security.

Digital Divide

There is a growing divide between people who can use technology and those who cannot, and this divide makes existing inequalities even worse. Agcaoli (2020) and Barrios & Moreno (2024) highlighted the digital divide as a major barrier in integration of new technologies.

Cluster Two: Improving Digital Governance

The raw data on Improving Digital Governance in the Philippines were extracted from the reviewed publications are stated in table 5. In describing this direction of study, research boiled down the most prominent features and characteristics articulated in the reviewed publications to the following:

Infrastructure Development

Investing in and improving internet connectivity, hardware, and software. Dacer et al. (2025) recommend improving internet connectivity and access. Palma et al. (2023) imply the necessity of continued expenditure on ICT infrastructure.

Capacity Building and Training

Focusing on digital literacy training for government employees and citizens. Dacer et al. (2025) recommend enhancing digital literacy through training programs. Abales et al. (2023) suggest capacitating employees with needed skills.

Policy and Legal Frameworks

Developing clear policies and legal guidelines for digital governance implementation. Ona S. E. (2020) recommends enacting laws to provide a legal framework for digital governance.

Financial Investment and Resource Allocation

Allocating sufficient budgets for e-government projects and ensuring efficient resource utilization. Dacer et al. (2025) recommend increasing funding allocation for e-governance programs. De Castro & De Castro (2022) emphasize the need for budgeting for e-government initiatives.

Stakeholder Engagement and Collaboration

Involving citizens, government agencies, and other stakeholders in the planning and execution of projects related to digital governance. Dacer et al. (2025) recommend engaging stakeholders in change management. De Castro & De Castro (2022) suggest strengthening collaboration with various stakeholders.

Technical Support and Maintenance

Giving continuous maintenance and technical assistance for digital systems. Dacer et al. (2025) recommend enhancing technical support systems.

Digital Inclusion

Reducing the digital gap ensuring equitable access to digital services for all citizens, especially marginalized groups. Treceñe (2021) emphasizes the need for strengthening digital inclusion.

Gender Perspectives in ICT

Integrating gender considerations into digital governance policies and practices. Treceñe (2021) recommends enhancing women's representation in ICT policy development.

Cluster Three: Emerging Trends

The raw data on Emerging Trends and Future Research Priorities on Digital Governance in the Philippines extracted from the reviewed publications are stated in table 5. In describing this direction of study, research boiled down the most prominent features and characteristics articulated in the reviewed publications to the following:

Emerging Technologies

The integration of new technologies like AI and blockchain in e-government. Barrios & Moreno (2024) and Cabughawang et al.(2023) specifically mention AI and blockchain as emerging trends.

Table 5: Raw Data

Authors and Year	Cluster 1 Impacts of Digital Governance (Benefits and Challenges) RAW DATA	Cluster 2 Improving Digital Governance RAW DATA	Cluster 3 Emerging Trends of Digital Governance RAW DATA
(Kiram et al., 2025)	Challenge/s: The study identified challenges such as lack of digital literacy, inadequate infrastructure, and concerns about data misuse. Benefit/s Also highlighted opportunities for leveraging digital technologies to improve transparency, accountability, and citizen participation in public service	Sulu can harness the power of digital technologies to enhance public service delivery, promote transparency, and foster trust between the government and its citizens	

delivery.

| (Dacer et al., 2025) | Challenge/s: The research highlighted significant barriers to digital governance, primarily stemming from inadequate infrastructure such as unreliable internet connectivity, limited access to hardware, and software insufficiencies. Institutional constraints, including procurement challenges and funding inadequacies further exacerbated these issues. Participants emphasized the urgent need for government and organizational support to address these gaps, indicating that improvement in infrastructure is a foundational step toward effective digital governance.

The participants identified resistance to change and low digital literacy among teachers and school leaders as critical barriers. The "people" aspect was underscored as the most challenging component of digital governance, with cultural resistance and skill deficits hindering progress. Targeted professional development programs and initiatives fostering a positive mindset toward digital transformation were suggested as key strategies to overcome these barriers. | 1.Improve Internet Connectivity and Access: Collaborate with government agencies and private providers to establish reliable internet connections in schools. Increase Funding Allocation: Advocate for higher budgetary allocations to procure essential hardware and software necessary for digital governance. Streamline Procurement Processes: Simplify procurement policies to ensure timely acquisition of digital tools and resources. 2. Enhance Digital Literacy: Implement continuous training programs for teachers and school leaders to build their digital competencies. Promote a Growth Mindset: Conduct workshops and leadership seminars to encourage openness to digital transformation among resistant stakeholders. Engage Stakeholders in Change Management: Foster a participatory approach to involve teachers, staff, and students in digital governance initiatives to reduce resistance and increase buy-in. 3. Adopt Gradual Implementation: Introduce digital tools incrementally, prioritizing areas that provide immediate impact while building capacity for broader implementation. Leverage Partnerships: Strengthen collaborations with NGOs, private organizations, and |

educational technology providers to access training and resources. Utilize Open and Cost-Effective Resources:

Encourage the use of open-source platforms and low-cost digital solutions to address resource constraints.

4. Enhance Technical Support Systems: Establish

dedicated teams or helplines to assist schools with digital tool maintenance and troubleshooting. Increase Policy

Flexibility: Advocate for policies that allow schools to recruit IT-skilled personnel and customize solutions based

on their specific needs. Strengthen Government-School Collaboration: Develop joint action plans with

government agencies to address challenges in digital governance and ensure sustained support. These

recommendations aim to address the identified barriers, build on progress, and create a sustainable framework

for advancing digital governance in the Schools Division Office of Camarines Norte.

(Barrios & Moreno, 2024)	Challenge/s: 1.Barriers such as the digital divide, resistance to change, and security concerns have impacted the effectiveness of these tools. Facilitators like strong leadership, external partnerships,	By identifying specific barriers such as the digital divide and resistance to change, and detailing effective facilitators such as leadership and collaboration, the research provides practical insights for policymakers and practitioners. These findings can guide the development of more effective e-Government strategies and interventions	Emerging Trends and future research priorities: The integration of emerging technologies such as artificial intelligence and blockchain in eGovernment systems present new opportunities and challenges. Research

	and targeted training has been critical in overcoming these challenges.	into how these technologies can be leveraged to enhance public sector efficiency and transparency, while addressing potential risks, would be a valuable addition to the field.
	Benefit/s: Findings indicate that e-Government initiatives, including the e-Services Portal and Open Data Portal, have significantly enhanced administrative efficiency, reduced processing times, and improved transparency	
(Indama A. C., 2023)	Benefit/s: The review found that e-government initiatives have the potential to improve public service delivery by enhancing access, quality, and citizen engagement.	
(Indama & Salain, 2023)	Challenge/s: There are still challenges that need to be addressed. For example, ensuring that citizens have access to these digital technologies, and that they are designed to be accessible and user-friendly, is crucial. Additionally, concerns around data privacy and security need to be addressed to ensure citizens can trust and use these digital technologies confidently.	
(Palma et al., 2023)	Challenge/s: One of the main challenges facing the implementation of e-government in the Philippines is the lack of adequate infrastructure and connectivity in some areas,	As technology continues to advance, the government must continue to invest in infrastructure, capacity-building, and stakeholder engagement to ensure the success of e-government initiatives.

	particularly in rural and remote areas. This hinders the access and adoption of e-government services, limiting the potential benefits to citizens in these areas. Benefits: The implementation of e-government in the Philippines has made significant strides in recent years, although challenges remain. The government has recognized the potential of technology to enhance public service delivery, increase transparency and accountability, and promote citizen engagement. As a result, several initiatives have been launched, such as the e-Procurement System, the Integrated Tax System, and the Electronic Business Permit and Licensing System.		
(Abales et al., 2023)	Challenge/s: Citizens actively engaged with e-governance through media, yet challenges persisted, such as citizens' hesitance to embrace e-government due to limited online technology skills.	Governments should focus on improving digital infrastructure, promoting digital literacy, addressing security concerns, and engaging citizens in the design and implementation of e-government initiatives. By doing so, e-government can become a powerful tool for efficient and inclusive governance in the digital age.	
(Cabughawang et al., 2023)			To make government actions more transparent and easier to verify, the researcher developed a prototype of a blockchain network

		that can run government tasks in a way everyone can see and check
(De Castro & De Castro, 2022)	Challenges: The study implies that the lack of funds and absence of a website manager were identified as challenges in the establishment of websites in some local governments	To sustain e-government initiatives and ensure their successful implementation, the local governments may consider the following: 1. Provide budget for e-government by integrating it in the annual budgeting plan of the LGUs for their projects to become sustainable, 2. Create Plantilla positions for ICT personnel who will handle website services, computerization and other e-government systems and projects of LGUs, 3. Capacitate more employees to develop the skills needed to implement e-government, 4. Embark both on in-house development and outsourcing of e-government programs and applications, 5. Remain participative and supportive to the projects of the national governments specifically on the use of ICT in governance, 6. Strengthen collaboration with other local governments, private sectors, and higher educational institutions in implementing e-government related projects and activities, 7. Benchmark with other LGUs to adapt their best practices on e-government.
(Treceñe, 2021)		Recommendations: The government should take part in enhancing women's representation in the decision-making structures in the government by incorporating

	gender perspectives and encouraging women in the marginalized sector to participate in the policy development process with regards to ICT.
	The government should also focus on strengthening digital inclusion, particularly to the
	marginalized sector in the community where access to e-government services is difficult. It is also important to allocate an adequate budget to local levels particularly in public school
	systems on the implementation of digital literacy initiatives.
(Ona S. E., 2020)	Recommendations: Enacting laws can provide the government with basic legal guideline for implementing digital governance across national agencies and even in local governments, moreover, a digital governance law can prescribe the basic elements of a digital governance strategy such as enabling policies, capacity building programs, and skills development as well as requiring interoperability among national agencies.
(Bajar, 2020)	This study recommends that the government should explore later the idea of centralized e-government management which will eventually provide a system of virtual checks. The government may form a committee or designate the newly organized Department of Information and Technology (DICT) to conduct systematic, comprehensive, and consistent reviews to ensure that public resources are used productively.

Discussion

All findings and results of this scoping review represents valuable and comprehensive insights in the perceived impacts of digital governance initiatives in the Philippines. The review highlights both significant challenges and the potential benefits. On the other hand, digital governance has the capacity to alter or revolutionize public service in the Philippines by making government services more accessible, efficient, effective, and responsive to the citizens' needs. Studies have reported positive impacts in various areas including improved public service delivery. Digital platforms can streamline processes, reduce red tape, and enhance the overall quality of public service delivery (Barrios & Moreno, 2024). Online access to government data and transactions can promote transparency and accountability, making it easier for citizens to monitor or check the government performance and hold officials responsible (Barrios & Moreno, 2024). By enhancing citizen engagement, digital tools, and systems can facilitate greater citizen participation in government decision-making, enabling citizens to voice their opinions, provide feedback, and contribute to policy formulation (Indama, 2023 and Ona S. E., 2020).

In order to fully realize the potential of digital governance in the Philippines, the analysis highlights key obstacles that must be overcome. These challenges include ICT Infrastructure Deficiencies; the lack of adequate ICT Infrastructure including unreliable and slow internet connectivity and limited access to digital devices poses a major barrier to digital inclusion and participation (Dacer et al., 2025; Palma et al., 2023; Agcaoli, 2020). Digital literacy and skills gap; The digital literacy and skills gap among Filipino citizens, government employees, and even teachers hinder the effective adoption and utilization of digital technologies (Kiram et al., 2025; Dacer et al., 2025; Abales et al., 2023). Institutional and financial constraints, limited funding for e-governance projects, complex procurement processes, and lack of dedicated IT government personnel can impede the implementation and sustainability of digital initiatives of the government (Dacer et al., 2025; De Castro & De Castro, 2022). Resistance to change and digital divide can slow down the development and progress of digital transformation in the government (Ducer et al., 2025). The study also revealed some new emerging trends that could be integrated into designing a new digitization system in governance. This includes Artificial Intelligence (AI) to provide public services, to utilize AI and make public service delivery faster and easier (Barrios & Moreno, 2024). Another modern approach of using Blockchain networks in e-governance, is a technology that allows governments to record and manage information in an impenetrable and transparent way. Instead of keeping all data in one central computer, data is spread across many computers (Cabughawang et al., 2023).

Conclusion

This scoping review provides valuable and comprehensive overview of digital governance in the Philippines. While the potential benefits are significant, the challenges are equally substantial. In order to harness the development and transformative power of digital governance, policymakers and stakeholders need to address the

digital divide, promote digital literacy, strengthen institutional capacity, and foster a cooperative and innovative culture. The findings of this review highlight the need for further research on the long-term impacts of digital governance initiatives, particularly on marginalized and vulnerable populations. It is also crucial to investigate the effectiveness of different strategies for enhancing digital governance and promoting digital inclusion. By addressing these challenges and investing in research and capacity building, the Philippines can leverage digital technologies to establish a more responsive, effective, efficient, and inclusive government that meets the expectations of its people.

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Consent to participate: All of the authors listed above were involved in this study

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Authors contribution: All the authors contributed meaningfully to the actualization of the work

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