



A double-blind, peer-reviewed, open-access, and an HEC-recognized Y-category Journal

Research Journal of Human and Social Aspects

Web link: <https://rjhsa.com/index.php/rjhsa>

P-ISSN: [3006-9696](https://doi.org/10.71085/rjhsa.04.03.120), E-ISSN: [3006-970X](https://doi.org/10.71085/rjhsa.04.03.120)

Volume 4 Issue 3, 2026, Page Rang: 387-401



E-Governance and Public Service Delivery in Pakistan: Enhancing Efficiency, Transparency, and Citizen Satisfaction

Saba Farah¹ Muhammad Faizan Asghar²

¹ School of Public Administration, Hohai University, Nanjing 210098, China.

² Director (Technical), Fortis Security and Advisory L.L.C-FZ, Dubai, U.A.E.

Correspondence Author: saba.farah1549@gmail.com

Article information

Article History:

Received: 2026-06-23

Received in revised form:
2026-07-26

Accepted: 2026-08-09

Published Online: 2026-08-21

Keywords:

Citizen Satisfaction; Digital Governance; E-Governance; Efficiency: Public Service Delivery; Transparency.

ABSTRACT

E-governance is one of the significant methods for modernization and enhancement of public administration and public service delivery. The present study has explored e-governance in increasing efficiency, transparency and satisfaction among citizens in Pakistan. The design of a quantitative cross-sectional survey was used and 300 citizens of Pakistan were selected for data collection with experience of using digital government services. The data has been collected by a structured questionnaire with the help of five point likert scale. The relationships between e-governance, public service efficiency, transparency and citizen satisfaction were analysed using descriptive statistics, Pearson correlation, reliability analysis and multiple regression. The results revealed that citizens' satisfaction had a mean score of 3.72 (SD = 0.73) public service efficiency 3.69 (SD = 0.76), transparency 3.64 (SD = 0.74), and e-governance 3.78 (SD = 0.71). The correlations of e-governance with public service efficiency, transparency and citizen satisfaction were all positive and significant (0.641, $p < .001$; 0.587, $p < .001$; 0.673, $p < .001$, respectively). The regression models accounted for 41.1%, 34.5% and 45.3% of the variance in efficiency, transparency, and citizen satisfaction, respectively. The study found that a good e-governance can facilitate more efficient, transparent and citizens-oriented public services. Further strengthening of digital infrastructure, Cyber Security, institutional coordination, digital literacy and designing platform for the users can enhance the performance of digital public services in Pakistan.



© 2026 by the Authors. Licensee Farah & Asghar. This article is an open-access distributed under the terms and conditions of the Creative Commons Attribution (CC BY) License <https://creativecommons.org/licenses/by/4.0/>

Introduction

The impact of digital technologies on Government-Citizen interactions is transforming engagement with citizens to deliver Government services. E-governance entails the use of information and communication technologies (ICTs), digital platforms, on-line portals and information systems which rely on information and data to facilitate administration and improve the access to government services provided to citizens. Digital service delivery can minimize delays in the processes, ease the impact of service delivery interaction, increase ease of access to information, and increase ease of access for citizens. Recent studies however note that citizens not only value the technological availability of digital government but also from the service quality, reliability, accessibility and satisfaction standpoint (Latupeirissa et. al., 2024). Digital services also have the potential to deliver public value from a citizen's perspective by cutting down on the services' cost and making the government more effective (Luna et al., 2024).

Although e-governance is slowly establishing itself in the country and the administrators and service delivery entities are investigating new ways to displace the traditional approach to handling administrative and service delivery processes. Assisting governments could shift services from paper-based to streamlined, online services with the ICT solutions. In the relationship between citizens and public institutions, the role played by digital platforms has become more and more important in many digital identity projects, online tax collection processes, digital payment systems and citizen centric digital platforms. The World Bank's Digital Economy Enhancement Project also highlights the need to increase the ability to provide digitally-enabled public services to Pakistan's citizens and businesses. (World Bank, 2024). Furthermore, recent research in

Pakistan has shown that the implementation of e-government services can influence citizens' perceptions of efficiency, transparency, effectiveness, and satisfaction (Abbasi & Hyder, 2024).

Beyond merely being digital solutions, the achievement of e-governance in Pakistan greatly relies on its effectiveness. Yet certain challenges like weak Internet connectivity, weak digital skills, lack of technological infrastructure, privacy and other differences in citizens' Internet service use could exacerbate one other's limitations to reap the advantages of the digital change. The digital divide is also one of the areas discussed in a recent study on e-governance, which suggests that it can ameliorate the link between digital government and citizens' satisfaction (Latupeirissa et al., 2024).

Background of the Study

E-governance is a part of the larger shift from public administration to technology-based and citizens-focused approach to governance. Digital systems can automate routine administrative tasks, share information, facilitate information management in government offices, and promote providing services to citizens at home without requiring citizens to make multiple appointments and visits to government offices. Such changes may improve the quality of government administration, and at the same time will help increase access to government information. It is particularly important in the context of the transparency criterion, as the digital platforms can generate an apt information, procedures and requirements for citizens in an easier-to-use manner for the institutions. Digital transformation can be seen as a remedy for service delivery efficiency and accountability as it can automate processes, enable the timely sharing of information and better engagement of citizens in services (Valgeir & Terreni, 2015; Sain et al., 2025).

Another significant aspect of good e-governance that impacts citizens is citizen satisfaction. Just because there have been online services and technology systems provided it does not necessarily mean the government has been successful in its digital endeavor; the citizens' experience with the services is a key element to measure. Ease of use, responsiveness, reliability, accessibility, service quality and trust are just some of these factors that can affect Citizens' Satisfaction with Digital Government. Abbasi & Hyder (2024) conducted research with 310 citizens in Pakistan and showed that citizen involvement and reduction in corruption, effectiveness, efficiency, transparency, and trust are relevant for the citizens' satisfaction with service quality of the e-government in Pakistan. In addition, other recent studies, which have taken place in a developing country context, have produced evidence of the impact of digital service quality and digital literacy on citizen satisfaction (Ramadhan & Pribadi, 2024).

For a Pakistan, it is useful to see its e-governance and public service delivery context. The potential for offering solutions in the areas of efficiency, transparency, accessibility and citizen satisfaction is great, the effect of digitalisation is contingent on the key strengths of the institutions, the technological infrastructure, digital skills and digital services inclusiveness. The assessments conducted recently of the state of digital transformation in Pakistan have highlighted the progress made toward digital financial systems, platforms to access government services, etc., while infrastructure, security, and digital inclusion continue to be worrisome. Considering those, the present study is focused upon E-Governance and the role of e-governance in improving PS Delivery, satisfaction of citizens and efficiency and transparency in this regard while Pakistan is taken as a case.

Objectives of the Study

1. To investigate the impact of e-governance on the efficiency for delivery of public services in Pakistan.
2. To evaluate the effectiveness of e-governance in providing transparency in public services delivery in the context of Pakistan.
3. To explore the correlation between e-governance and satisfaction of citizens with public services in Pakistan.

Research Questions

- Q1. What is the effect of e-governance on efficiency in public service delivery in Pakistan?
- Q2. How effective is e-governance in increasing transparency of public service delivery in Pakistan?
- Q3. How e-governance is associated with citizens' satisfaction of public services in Pakistan?

Significance of the Study

The study is important because it sheds light on the role of e-governance in enhancing public service delivery in Pakistan. It helps to shed light on the role of e-governance in enhancing administration efficiency, transparency and citizens' satisfaction with the delivery of governance services. The results can be used to inform policy and public institutions of existing strengths and weakness of digital systems and the design of more accessible, responsive, and citizen-centric e-governance initiatives. The study can also help government to narrow down the time lag, make public information more accessible and enhance accountability; and accountability through digital platforms. The study offers researchers and students a foundation for additional research on e-governance, digital transformation, public administration and citizen-centred service delivery in developing countries.

Literature Review

E-Governance and Public Service Efficiency

E-governance has been perceived as way to digitalize and re-engineer public administration with new digital information technologies, computer fixations, and integrated information systems and online services. The paper provides compelling evidence that digitalisation can enhance the administrative efficiency of government, by cutting out repetitive tasks, letting information circulate and helping to establish quick link communication between government entities and citizens. Digital transformation had made a significant track during being efficient in delivery of public service, while the elements of digital transformation such as automation, real-time information sharing and organizational support were found to play a pivotal role in digital transformation success (Sain et al., 2025).

It also relies largely on the efficiency brought about by e-governance devices and the ability of the public institutions to include digital devices with the administration structure. Digital transformation can't just be a transfer of physical services to the digital world; it also has to be coordinated through institutions, managed under good leadership, provided with a proper infrastructure, and practiced in an organization. Research on the issue of reforming public management that has been conducted has revealed that digitalization and open access to information can have a positive impact on the efficiency of public management processes. In such scenarios, e-governance may offer a supplementary benefit to deliver services as citizens can submit applications, and use e-services to find out if they've been accepted, to obtain information, or to check on the progress of their services application, without needing to visit the physical location of government organizations.

In Pakistan, there is potential for improvement in "e-governance" efficiency but there are difficulties as well in operationalizing it in Pakistan. The study identifies the issues of implementing e-governance in Pakistan and also emphasizes the role of e-governance in process of efficiency, transparency and citizen centric governance, while highlighting as well the institutional and infrastructural constraints to e-governance in the country. It is not just about technology, it's about institutional readiness to make digital government a success, as well as ensuring that the capacity of government institutions is deepened and enhanced to provide a reliable digital service.

E-Governance and Transparency

The enhancement of citizens' access to Administrative information, processes, outcomes and information on Executive performance-on digital government platforms-is one key area where digital governance would be successful, and transparency would be a key element of such success. Digital communication; EU source of information more reliable and reduces the need for informal communication. Research recently conducted has shown that transparency has the potential to strengthen citizens' trust in the government, by ensuring information about its performance and current financial situation, which goes 'beyond legal requirements'. (Ripamonti, 2024) The fact that value of digital transparency is linked not only to the availability of information, but also to the accessibility, relevance and fill rate of the information given to citizens.

Recent studies also indicate a strong connection between transparency of e-gov and institutional trust. According to Afiyah (2024), the performance of public services can be made more efficient and easier to use through the services offered by e-government and increasing transparency and citizen's participation, which will affect

citizens' views of the accountability and integrity of the government. In digital governance, the relationship between E-government, transparency, and citizens' trust is established by Jopang et al (2024) as they argue that citizens trust can be strengthened via a digital governance pathway through transparency. Tracing this line of argument from these results, it can be claimed that transparency does not simply emerge from digitalization, but is able to influence citizens' attitudes towards institutions and processes in a government.

Further studies backing up the link between transparency and citizens' perception of public service are provided by the recent metaanalytic evidence. Based on the findings from 54 studies, Li et al. (2025) created a summary of 143 effects that indicated, in general, transparency positively influenced public satisfaction, although this relationship was not consistently found across policy domains, research contexts and conceptualizations of transparency and satisfaction. It is especially important for developing countries like Pakistan as it can enhance citizens' confidence in the government and help in establishing accountability in public institutions.

Increased satisfaction among citizens and improved E-Governance

In digital government, one of the key quality indications is the level of satisfaction of its citizens when it comes to providing services. Recent studies concentrate on the citizens' assessment of digital services from different points of view (including accessibility, system quality, information quality, reliability, responsiveness and usability). The authors looked through the literature and identified variables that had the highest impact in citizens' public value perception of electronic government services which were, according to the public value theory, service quality, information quality, and system quality. (Asmawanti-S et al., 2025). The dimension

sizes tell us that citizens' sense of satisfaction is not necessarily connected to the presence of some type of online service, but needs to connect to the usefulness of the service, as well as reliability, understandability and responsiveness.

Another important point that connects the utilization of e-government and citizen's satisfaction is the usability, or User Experience of citizens during the process of using the e-government services. Recent empirical research in the last few years indicates the correlation between citizen satisfaction and perceived public service quality with regards to ease of use, accessibility and perceived usefulness as experienced by the citizen in e-government implementation. The results also provide us some insights that information quality, system quality, and service quality are important to citizens' satisfaction with e-government platforms and the relationship can be harmed even by the digital divide as in the case of Nepal.

Citizen satisfaction is also pertinent in the Pakistani context due to the high level of contestation in public service delivery and relevance of multiple impacts of digital governance in that context. Social inequality, unequal access to digital technologies, has consistently been cited by recent research done in Pakistan as important factors affecting the efficacy of digital governance and citizens' trust on the institutions. The literature takes a walk in the right direction, and gave credit to the positive impact of user-friendly and user experience factors on the perception of public services in Pakistan in the domain of e-governance; The user-friendliness, user experience should be kept in parallel with efficiency, transparency, and accessibility. This gives the ground for the current study which particularly looks into how efficient, transparent, and satisfying delivery of public services has been in Pakistan due to aforementioned e-governance.

Research Methodology

Research Design

The research methodology of this study was quantitative as compared to other methods that are available in the literature. The design of the study was cross section as its data was obtained only once from respondents. The design was appropriate for measuring citizen's perception on e-governance as well as the relationship of citizens and Digital government services further efficiency, transparency and citizen satisfaction. Other studies on e-government in Pakistan have used questionnaire-based quantitative surveys, providing a glimpse into the satisfaction of citizens of e-government services.

Population and Sample

The target group comprised citizens of Online platform and citizens who used the online services and were linked with the government services. The people that participated were those that use any of the following online government services: Online Government services, Mobile Apps, Online complaint services, Online registration services, Taxation information services, Identity-related services, and other electronically provided government services. A total of 300 respondents participated in the study. The sample size exhibited was suitable for descriptive analysis, correlation analysis, reliability test and multiple regression analysis. When choosing the respondents, another principle was applied: the fact that the person has experience with e-government services.

Sampling Technique

Use of purposive sampling method for selecting the respondents. People who used e-government services in Pakistan had fulfilled the basic eligibility criteria to include into the study were those who used e-government services. People who used e-governance services fulfilled the basic

requirement of participation in the study "e-governance services in Pakistan" were included. This method was suitable given the focus of the research which sought out the experiences of respondents of direct contact with digital public services. The questionnaire was mailed to the users, who come from different educational, occupational and demographic backgrounds and distributed online. The research method helped foster access to the citizens' responses to the motivational factors when they experience the government website, online government portal or mobile government application in their phones. In the related recent research, respondents accessing e-government services were sent questionnaires on-line and the Pakistani users of e-government were used for sampling purposes, much like the online survey method used in this research.

Research Instrument

Data were collected using structured and self-administered questionnaires. The questionnaire consisted of two sections. Demographic data (gender, age, education, occupation, and frequency of contact with digital government service) were gathered in the first part. The second part of the assessment measured the variables used in the main study in this research which include e-government; citizen's satisfaction of the public service; and citizen's transparency in the public services. These items were developed on the basis of the previously known literature on dimensions that exist in both e-government and public service in other contexts and then adapted to a Pakistani context. Responses to items were made on a 5-point Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree.

Data Collection Procedure

All the main data collected were done by using online questionnaire. The survey link was disseminated to the Pakistani citizens

making use of digital government services through social media, email and online communication network. Before enrollment in the study, respondents were told generally of the study and that they did not have to take part. The screening question was at the start of the questionnaire so as it would be learned who answered have experience with the use of e-government services. Eligible Respondents were then proceeding to an extra questionnaire. Data was collected until there were 300 valid responses. To narrow down the access to a point where it could be deemed viable, research was restricted to those who used the digital services provided by government agencies. The choice of online data collection was viable because it limited the research to individuals who were using government services online.

Data Analysis

The answers obtained were processed and analyzed using the SPSS (Statistic Processing of Social Sciences). Demographic information about each of these groups was gathered by

calculating the central tendency and descriptive for each of the study variables. The e-governance, efficiency, transparency and citizen satisfaction have been measured by calculating the means and standard deviations. Pearson correlation analysis was subsequently done to find the direction and the strength of relationships among the variables. Multiple regression analysis was finally conducted to examine whether e-governance was one of the significant factors responsible for predicting the efficiency, transparency and satisfaction of citizens toward the public services. The significance was explored at 0.05 level. The analysis did not explain the relationship of the variables cross-sectionally as causal effects.

Results and Analysis

Respondents' Profile

The study analyzed responses from 300 citizens who possessed experience with digital government services in Pakistan.

Table 1: Demographic Characteristics of Respondents (N = 300)

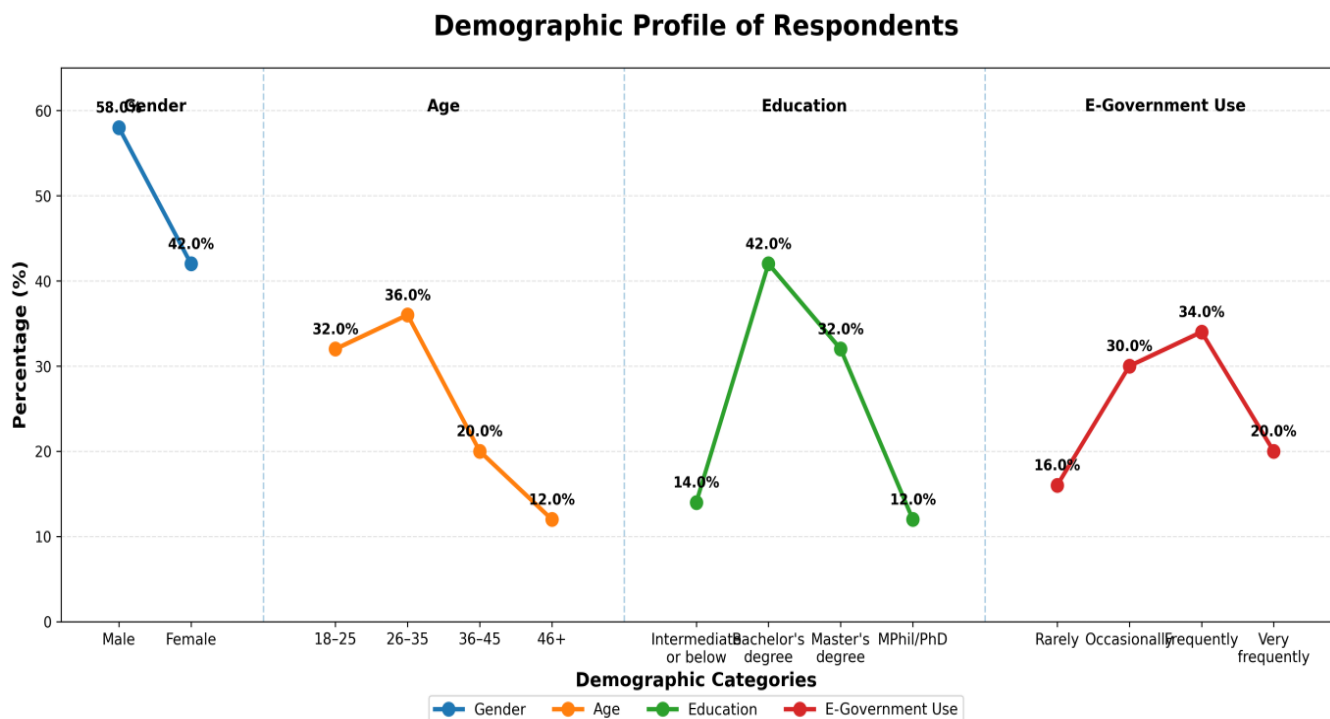
Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	174	58.0
	Female	126	42.0
Age	18–25 years	96	32.0
	26–35 years	108	36.0
	36–45 years	60	20.0
	46 years and above	36	12.0
Education	Intermediate or below	42	14.0
	Bachelor's degree	126	42.0
	Master's degree	96	32.0
	MPhil/PhD	36	12.0
Frequency of E-Government Use	Rarely	48	16.0
	Occasionally	90	30.0

Demographic Variable	Category	Frequency	Percentage (%)
Total	Frequently	102	34.0
	Very frequently	60	20.0
	—	300	100.0

The results of Table 1 revealed that 174 (58.0%) of the respondents were male, 126 (42.0%) were female. Based on the distribution it was revealed that both male and female citizens responded to this study but there were more male citizens than female citizens. Both groups contributed to the scope of this study, which looked at the citizen experience with digital public services. Agree-able age distribution was found with the highest percentage among those aged 26–35 years (36.0%) and the 18–25-year age group next with 32.0%. There were 20.0% of the respondents of age group 36 – 45 years and 12.0% in the age group 46 years and above. The results showed that a high percentage of this sample was younger and middle aged citizens. This distribution

was important as younger people were one of the key user groups for online and mobile-based public services and older people's voice added extra perspectives on the ease of access and usability of e-governance platforms. The educational characteristics indicated that 32.0% of the respondents had master's levels and 42.0% had bachelor's levels. The 12.0% and 14.0% of respondents who graduated with MPhil and PhD, respectively, had intermediate education or less. As for the frequency of exercising, 34.0% exercised e-government services often and 20.0% very often. Some 16.0% participants used such services rarely, and an additional 30.0% participants used the services once in a while.

Figure 1: Demographic Characteristics of Respondents (N = 300)



Total sample size (N) = 300 | Percentages represent respondent distribution

Descriptive Statistics and Reliability Analysis

Descriptive statistics were calculated to determine the overall perceptions of

respondents regarding the major study variable.

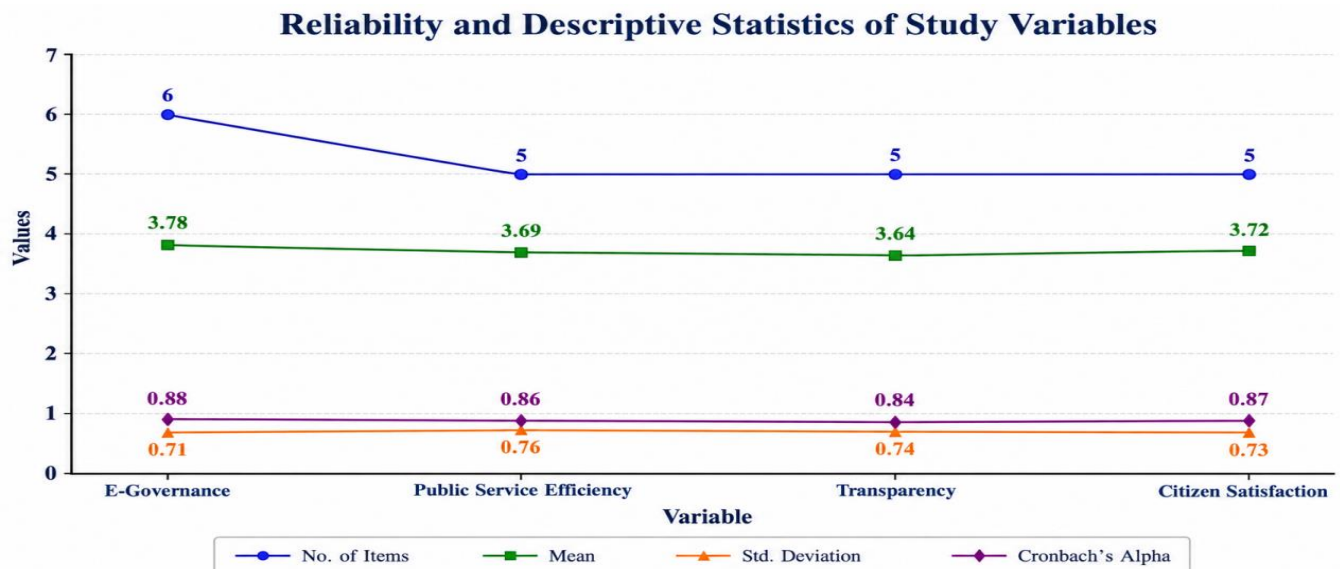
Table 2: Descriptive Statistics and Reliability of Study Variables (N = 300)

Variable	No. of Items	Mean	Std. Deviation	Cronbach's Alpha
E-Governance	6	3.78	0.71	0.88
Public Service Efficiency	5	3.69	0.76	0.86
Transparency	5	3.64	0.74	0.84
Citizen Satisfaction	5	3.72	0.73	0.87

As seen in Table 2, the highest mean score (M = 3.78, SD = 0.71) was in E-Governance out of these variables. This finding demonstrated that nearly all of the respondents had favorable views on availability, accessibility, usability and effectiveness of digital government services. With a standard deviation of 0.71, there was moderate level of variation in the responses implying that the perceptions of the respondents were on the whole not far from each other. On the question of public service efficiency, the mean response was 3.69 although SD = 0.76, suggesting that generally respondents had favourable opinions of the efficiency of the digitally provided public service. The respondents generally believed that e-governance reduced procedural hassles and

streamlined services, provided better access, and promoted w faster services. The mean value of transparency was 3.64 (SD = 0.74) and was also judged as positive. Citizen Satisfaction had a mean score of 3.72 (SD = 0.73), meaning that the users were generally satisfied with Digital Public Services. The reliability of the instrument showed good internal consistency for all the constructs. The Cronbach's alpha was between 0.84 and 0.88, all of which were greater than the standard of 0.70. The reliability of the items of E-Governance ($\alpha = 0.88$), Citizen Satisfaction ($\alpha = 0.87$), Public Service Efficiency ($\alpha = 0.86$), and Transparency ($\alpha = 0.84$) respectively were the highest for this study.

Figure 2: Descriptive Statistics and Reliability of Study Variables (N = 300)



Correlation Analysis

Pearson correlation analysis was conducted to examine the relationships among e-

governance, public service efficiency, transparency, and citizen satisfaction.

Table 3: *Pearson Correlation Matrix of Study Variables (N = 300)*

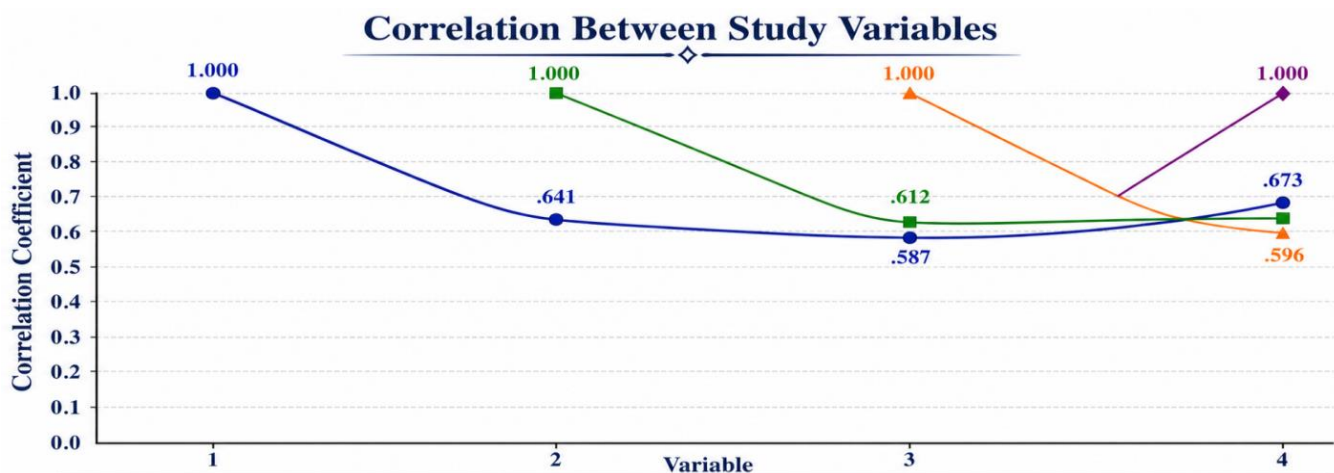
Variable	1	2	3	4
1. E-Governance	1			
2. Public Service Efficiency	.641	1		
3. Transparency	.587	.612	1	
4. Citizen Satisfaction	.673	.648	.596	1

$p < .01$ (2-tailed)

Table 3 indicated that there is high positive correlation between E-Governance and Public Service Efficiency ($r = .641$, $p < .01$). These responses revealed that the greater the positive perception respondents had about e-governance, the higher the level of public service efficiency they reported. Roles proposed that greater digital accessibility, facilitations online and technology-dependent processes in administration were linked to the attitudes towards the speed and convenience of public service. There were also significant positive correlations between E-Governance and Transparency ($r = .587$, $p < .01$). This finding showed that individuals who made higher scores on the perception of e-governance made higher scores on the perception of transparency. It seemed that digital platforms facilitated citizens'

(in)accessibility to government information and visibility of government procedures. Transparency also correlated positively with Public Service Efficiency ($r = .612$, $p < .01$) with the greater level of transparency associated with an improved perception of service efficiency. There was the highest correlation between Citizen Satisfaction and E-Governance ($r = .673$, $p < .01$). This finding shows a high positive correlation between citizens' perceptions of digital governance and the satisfaction they feel with public service. The public service efficiency also showed a good positive relationship with Citizen Satisfaction ($r = .648$, $p < .01$), and Transparency showed significant positive relation with Citizen Satisfaction ($r = .596$, $p < .01$).

Figure 3: *Pearson Correlation Matrix of Study Variables (N = 300)*



Regression Analysis

Multiple regression analysis was conducted to determine the predictive contribution of e-

governance to public service efficiency, transparency, and citizen satisfaction.

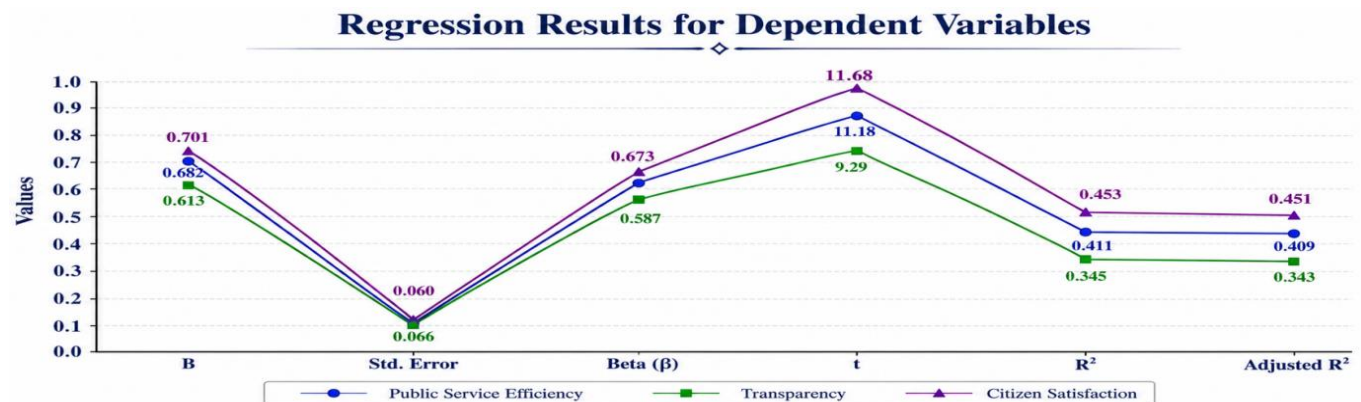
Table 4: Regression Results for the Effect of E-Governance on Public Service Delivery Outcomes

Dependent Variable	B	Std. Error	Beta (β)	t	p-value	R ²	Adjusted R ²
Public Service Efficiency	0.682	0.061	0.641	11.18	<.001	0.411	0.409
Transparency	0.613	0.066	0.587	9.29	<.001	0.345	0.343
Citizen Satisfaction	0.701	0.060	0.673	11.68	<.001	0.453	0.451

The regression results showed that the E-Governance significantly predicted Public Service Efficiency ($\beta = 0.641$, $p < .001$). The result of the model yielded an R² value of 0.411 which indicated that 41.1% of the variation in public service efficiency was statistically associated with e-governance. The adjusted R² value was 0.409, and was quite similar to the R² value, suggesting a consistent contribution to the explanation. The positive coefficient (B = 0.682) indicated that a positive relationship existed between perception of e-governance and the perceived efficiency in public service delivery. The second regression model showed that the explanation of the influences of E-Governance on Transparency was significant, namely $\beta = 0.587$, $p < .001$. The model accounted for 34.5% of the variability (R² = 0.345) and the adjusted R² = 0.343. There was a positive unstandardized coefficient (B = 0.613) for e-governance perceptions with respect to perceptions of transparency, suggesting that the higher the

e-governance perceptions, the higher the perception of transparency. A t-value of 9.29 and a p-value less than .001 were statistically significant. The third model had the best predictive relationship. E-Governance was a significant predictor of Citizen Satisfaction ($\beta = 0.673$, $p < .001$), and explained 45.3% of the variance in Citizen Satisfaction (R² = 0.453) and 45.1% when adjusted for the number of items (adjusted R² = 0.451). So, about 45.3% of the variation in the satisfaction of citizens was statistically linked to e-governance. The coefficient (B = 0.701) showed positive relationship and the value of t was 11.68 which indicated statistical evidence for the relationship. The three outcomes, measured according to standardized beta coefficient and explained variance, were citizen satisfaction had the highest. The results then confirmed the third research objective and found that those citizens who have a more positive perception of e-governance also report being more satisfied with public services.

Figure 4: Regression Results for the Effect of E-Governance on Public Service Delivery Outcomes



Discussion

The public administration transition to “F-governance” has a significant effect on stakeholders as it enables governments to provide public services with the ease to more technology-based ones, which will benefit civil society in using public services. For instance, in Pakistan, digital government platforms can help implement measures like efficient communication, digital application, electronic record keeping and easy citizen-government interaction. According to a recent study, it is not about digitizing everything, but indeed the architecture (overall) of the technological and administrative systems, which is referred to as digital transformation. The institutional capacity, flexibility and responsiveness will be optimized through digital transformation, when the government constructs a digital institutional service configuration sufficient for user's need.

The modernisation of administrative institutions is also closely related to the development of e-governance in the framework of improving public service delivery. Digital platforms can help to diminish the need for physical workplaces, improve communication and provide citizens with opportunities for flexible access to government services. Based on the recent research, the use of digital government can help to improve public administration responsiveness in the provision of integrated service systems, sharing of data and automation in administrative processes (Twizeyimana & Andersson, 2024). In the context of developing countries, these changes are especially pertinent since the administrative formalities of these countries might entail delays, duplication of paperwork and restricted access. Improving interoperability across sectors of Government and ensuring the reliability of platforms can greatly help in enhancing the service delivery system of Government thus making it citizen friendly.

Other key parameters of good e-governance include transparency. Digital government processes can provide consumers greater access to information about the processes, requirements, decision making, public services and government operations. However, recent studies highlight the importance of increased transparency through digital technology to improve the accountability in this context, where citizens lack information that is timely, understandable, accessible and relevant to them (Cucciniello et al. 2024). It is also possible to have platforms that enable citizens to keep an eye on administrative processes and express concerns via formal channels online. Transparency is more than simply information available on the web. The government has also to ensure that information is up to date, is not vague or hard to understand, and is available to all the citizens in a different set of groups. Thus, institutional commitment and capacity to manage information becomes important backbone of transparent digital governance.

Citizens' satisfaction is closely related to citizens' experiences of digital interaction in government. When the web services are easy to use, available, reliability, security and responsive to end user requests, the odds of creating positive perception are higher. Recent studies also have called attention to the significance of perceived usefulness, ease of use, service quality, and notions of trust in citizen experiences in a digital government (Mensah et al., 2024). This implies that governments need to consider the perspective of their users when thinking about digital transformation and measure it according to the quality of the user experience rather than the number of services provided online. There is a great potential of user-centred design's implementation in Pakistan given the wide variations in people's digital skills, accessible use of integrated digital systems and comfort levels in Government procedures.

In general, discussion implies that solving the technology problems, instation questions, transparency and citizen needs of sustainable e-governance solutions must be done in an interlocked fashion. Governments can add more value to the public sector by harnessing digital transformation, have better governance through app.lion of appropriate technology, create a stronger cyber security and embrace digital inclusion as well as invest in constantly testing the quality and performance of the services provided. In the past few years, there has been some new research that indicates that establishing institutional capabilities, data practices and data governance that can enable the DT in the public sector should rest on the trust of the public (Wirtz et al., 2024). As for Pakistan, better coordination between various government departments, the improvement of the digital infrastructure, easy-to-access interface, secure digital information systems and more opportunities for citizen feedback can all help achieve better outcomes for challenges in digital governance.

Conclusion

The study concluded that e-governance was one of the most important mechanisms to enhance public service delivery in Pakistan. Digital government systems provide multiple opportunities to reduce waste and bureaucracy, ensure citizens access government services, enhance information access and facilitate citizens to interact with government institutions. The results confirm that digital governance is able to add value to the efficiency of government and the trust and satisfaction of the citizens. E-governance acted as one of the solutions to enhance the accessibility of public administrations, ease the use of and turn it citizen-oriented. However, the quality of digital infrastructure, institutional capacity, reliability of digital services and citizens' skills on the use of digital services were key to the success of the implementation of digital transformation.

Recommendations

Government institutions need to further enhance digital infrastructure and digital platforms for public services need to be more reliable, accessible and user-friendly. Digital services need to be easy to use for citizens with varying levels of education and technologic skills by employing user-friendly tools as well as simple explanations, usage information in multiple languages (should this be required) and a mobile friendly design. There also needs to be greater coordination of and integration between digital systems between Government departments, in order to reduce the duplication of effort and administrative delays. Increased citizens' trust in government online services should lead to increased implementation of digital expansion by the government with the backing of improved cybersecurity and data-protection regulation to ensure the process remains secure. It is recommended to have regular citizen feedback system to identify the problems in service and improve the functioning of the platform. In addition, funding of digital literacy can boost capacity on digital literacy to support those struggling in access to online government services and help promote more inclusive digital government.

Future Directions

Future research can be conducted at different provinces, districts, urban and rural areas of Pakistan to observe differences among citizen's experiences from e-governance. These can be discussed in other ways, such as how they affect citizens' satisfaction and/or service efficiency over time as digital government platforms are developed. The study of e-governance outcomes can be enriched by adding other dimensions such as digital literacy, trust, cybersecurity, perceived service quality, access to the service, digital privacy concerns, and digital inclusion to map the future research

directions. Enhancing research directions around e-governance outcomes with digital dimensions can result in the study of digital literacy, trust, cybersecurity, perceived service quality, service access, digital privacy concerns and digital inclusion. Qualitative interviewing and mixed methods can provide a more detailed picture of citizens' experiences, and the challenges facing government workers. Comparative analysis

with other developing countries can also be useful in identifying sound practices in digital governance in the country similar to the “elective” of better public service delivery policies. There could also be research for the individual government platforms and possible research into what services are delivering the most value in effective, transparent and citizen centric service.

References

- Abbasi, M. A., & Hyder, S. (2024). E-government services and citizens' satisfaction: Evidence from Pakistan. *International Journal of Social Science and Economic Research*, 9(4), 1–15.
- Asmawanti-S, D., Afifah, N., & Puspitawati, D. (2025). Digital government service quality and citizen satisfaction: A public value perspective. *Journal of Public Administration and Governance*.
- G. C., S. B., Gurung, S. K., Rana, S. B. J. B., & Dhungana, B. R. (2024). E-Governance, citizen satisfaction and net benefits: The moderating effect of digital divide. *Cogent Business & Management*, 11(1), 2402512. <https://doi.org/10.1080/23311975.2024.2402512>
- Haug, N., Dan, S., & Mergel, I. (2024). Digitally-induced change in the public sector: A systematic review and research agenda. *Public Management Review*, 26(7), 1963–1987. <https://doi.org/10.1080/14719037.2022.2092663>
- Jopang, J., et al. (2024). E-government, transparency, and citizen trust in public institutions. *Global Journal of Social Sciences and Humanities*.
- Latupeirissa, C. J. J., Yuliani, Y., Surya, A. B., & others. (2024). Digital government and citizen satisfaction: The role of digital service quality and the digital divide. *Cogent Business & Management*, 11(1), 2402512. <https://doi.org/10.1080/23311975.2024.2402512>
- Latupeirissa, J. J. P., Dewi, N. L. Y., Prayana, I. K. R., Srikandi, M. B., Ramadiansyah, S. A., & Pramana, I. (2024). Transforming public service delivery: A comprehensive review of digitization initiatives. *Sustainability*, 16(7), 2818. <https://doi.org/10.3390/su16072818>
- Li, Y., & Shang, H. (2020). Service quality, perceived value, and citizens' continuous-use intention regarding e-government: Empirical evidence from China. *Information & Management*, 57(3), 103197. <https://doi.org/10.1016/j.im.2019.103197>
- Li, Y., et al. (2025). Government transparency and citizen satisfaction: A meta-analysis. *Public Management Review*. <https://doi.org/10.1080/14719037.2025.2456658>
- Luna, D. E., Gil-Garcia, J. R., & Vivanco, L. F. (2024). Digital government and public value: Citizen perspectives on digital public services. *Government Information Quarterly*, 41(2).
- 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>
- Mensah, I., et al. (2024). Citizen satisfaction through the development of a sustainable mobile government service model: A blended approach through M-S-QUAL and EGAM theories. *Journal of Global Information Management*. <https://doi.org/10.4018/JGIM.20240701.oa8>

Mergel, I. (2024). Social affordances of agile governance. *Public Administration Review*, 84(5), 932–947.

<https://doi.org/10.1111/puar.13787>

Patil, K. P., & Bharathi, S. V. (2024). Citizen satisfaction through the development of a sustainable mobile government service model—A blended approach through M-S-QUAL and EGAM theories. *Journal of Information & Knowledge Management*, 23(3), 2450048. <https://doi.org/10.1142/S0219649224500485>

Ramadhan, M. F., & Pribadi, U. (2024). Digital literacy, digital public services, and citizen satisfaction in developing countries. *International Journal of Social Sciences and Economic Review*, 6(3), 1–12.

Ramadhan, M. F., & Pribadi, U. (2024). Digital literacy, digital public services, and citizen satisfaction in developing countries. *International Journal of Social Sciences and Economic Review*, 6(3), 1–12.

Sain, S., Das, S., et al. (2025). Digital transformation and public service delivery: Enhancing efficiency, transparency, and citizen participation. *Journal of Management Research*, 4(4). <https://doi.org/10.56943/jmr.v4i4.868>

Wirtz, B. W., & Langer, P. F. (2023). Public multichannel management—An integrated framework of online and offline government

service delivery. *International Journal of Public Administration*, 46(4), 245–261. <https://doi.org/10.1080/01900692.2022.2079501>

Wirtz, B. W., Weyerer, J. C., & Rösch, M. (2023). Citizen and public administration perspectives on digital government. *International Journal of Public Administration*, 42(7), 563–579.

<https://doi.org/10.1080/01900692.2022.2053975>

World Bank. (2024). *Pakistan digital economy enhancement project*. World Bank.

Ye, X., Su, X., Yao, Z., Dong, L., Lin, Q., & Yu, S. (2023). How do citizens view digital government services? Study on digital government service quality based on citizen feedback. *Mathematics*, 11(14), 3122. <https://doi.org/10.3390/math11143122>

Zahid, H., & Din, B. H. (2019). Determinants of intention to adopt e-government services in Pakistan: An imperative for sustainable development. *Resources*, 8(3), 128. <https://doi.org/10.3390/resources8030128>

Zahid, H., Ali, S., Abu-Shanab, E., & Javed, H. (2022). Determinants of intention to use e-government services: An integrated marketing relation view. *Telematics and Informatics*, 68, 101778. <https://doi.org/10.1016/j.tele.2022.101778>.

Declaration of Conflicting Interest

The author declared no potential conflicts of interest with respect to research.

Funding Statement

No funding is received for this project.