Governance in the Digital Age: Factors of Influencing Citizen Engagement on the Government Websites

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Abstract

With the development of smart cities, intelligent governance is naturally an indispensable component. Especially following the pandemic, many individuals have gained experience using e-government services. Nevertheless, significant progress is still required before e-government fully integrates into people's daily lives. How to encourage greater use of e-government has become a topic worthy of study. This paper, drawing from the UTAUT model, incorporates the variable of perceptions ofthe media use environment, which includes the factors of trust in the Internet, trust in the government and public value. This study findings indicate that the others variables, except performance expectancy and trust in the government, have an impact on use behavior. The conclusions can serve as a reference for governments worldwide in establishing and improving one-stop online government services.

Keywords: UTAUT, Adoption, Perceptions ofthe media use environment, E-Government website

1. INTRODUCTION

China actively promotes the development of e-government services with the goal of making public services and social governance more digital and intelligent. The Evaluation Report on the Organizational Performance of China (EROPC) (2021) shows that over 20 provinces, autonomous regions, and municipalities have issued plans for digital government construction, which has injected new vitality into the development of internet government services in China.

In recent years, all levels of government portal websites and mobile services platforms have been increasing in China. Although e-government infrastructure and network platform construction have been developed, the extent to which the advantages of e-government are fully realized is predominantly contingent upon the frequency with which the public engages with these services. The uptake of e-government initiatives by the citizenry has emerged as the paramount indicator of the success of e-government endeavors. (Jiang, 2010). Rowe and Freer (2000) believe that public participation is a series of procedures designed to consult, inform, and integrate the public into the decision-making process, enabling the public affected by decision-making (Alivi, 2023) to express their views in the decision-making process. Although the interaction mechanism between the government website and the people has been set up as a framework, the actual content has not been filled. At present, there are still problems in the interaction between the government and the people, such as low citizen participation, low efficiency and quality of government feedback, an imperfect response mechanism, and the prevailing need to optimize interactive columns between the government and the people (Jiang, 2022). On the other hand, the government's response has also been found to have various issues, such as inaction, lack of responsibility, selective response, formal response under pressure, and tight control (Hu, 2022). From the empirical perspective, research has identified problems in public participation amid the continuous improvement of digital government construction in China, including citizens' low initiative, low trust in the government, apparent personal interests, diversified interests, and so on. (Hu, 2022). Many problems also have been exposed such as the poor operation quality of some government websites and the low degree of interaction during the implementation. (Chen, 2016)

Drawing from the aforementioned analyses, it is apparent that the pursuit of an efficient e-government continues to confront numerous obstacles within the governmental landscape. E-government services risk being perceived as a superficial exercise, while the persistently low rates of adoption by citizens constitute a paramount hurdle impeding their maturation. The cornerstone of realizing the full

potential of online government services rests upon citizens' disposition towards embracing and utilizing these digital offerings. Thus, it behooves the government to delve into the intricacies of factors that modulate citizens' adoption behaviors and subsequently implement targeted strategies to galvanize active utilization of e-government services. Current scholarship exploring this phenomenon often employs the UTAUT as a theoretical framework. This model pinpoints four fundamental predictors of technology usage and adoption intentions: performance expectancy, which pertains to individuals' assessment of how a technology's usage can bolster their task accomplishment; effort expectancy, albeit not explicitly mentioned, can be understood as an implied component affecting individuals' willingness to engage based on the perceived ease of use; social influence encapsulates the degree to which an individual's technology adoption is swayed by the compelling forces of their social milieu, be it colleagues, family members, or other affiliates within their social strata; and facilitating conditions denote the individual's perception of the availability and adequacy of resources and assistance that can aid in the effective utilization of the technology. However, most people ignore the perceptions ofthe media use environment refer to individuals' understanding and awareness of how media use shapes their experiences, behaviors, and social interactions.", In this research, the perceptions ofthe media use environment contains trust and public value. A widely accepted viewpoint posits that trust is an essential factor influencing the acceptance of online technologies, as evidenced by various scholarly works by Abu-Shanab (2017). The lifetime societal propensity to believe in the system and trust others, together with the exact expectations for all parties, helps establish trust for new users of online government services. For seasoned users, a significant source of faith will be the nature of prior interactions with e-government. Citizens' trust serves as the fundamental driving force behind the conceptual model of e-government using proposed by Warkentin et al. (2002). Public value encompasses the objectives and the efficacy of public policies, which includes the range of services provided by governmental entities as well as the desired outcomes, such as the enhancement of trust and the establishment of legitimacy within the community. It represents the worth created by

governmental entities through their service provision, regulatory actions, and other initiatives. This value is shaped by the preferences of the citizenry, which are typically represented in the choices made by their elected representatives (Kelly et al., 2002). Therefore, incorporating the constructs oftrust and public value into the UTAUT framework is essential for addressing the knowledge gaps pertaining to the adoption and utilization of technology within the public sector. This integration aids in deepening our comprehension of the factors that influence the acceptance of technology in a governmental context.

2. literature review

2.1 UTAUT model

Within their seminal research, Venkatesh et al. (2003) introduced a comprehensive model known as the Unified Theory of Acceptance and Use of Technology (UTAUT). This conceptual framework distills the essence of eight preceding theories, streamlining them into a quartet of core elements that influence a person's predisposition to adopt and then interact with technological solutions. These factors comprise performance expectancy, effort expectancy, social influence, and facilitating conditions. The UTAUT framework also posits that the impact of these key factors on both the intention to utilize technology and the actual usage might be moderated by a variety of variables, including age, gender, prior experience, and the level of voluntariness in the technology engagement.

The UTAUT has garnered significant attention for its ability to elucidate the acceptance of various technologies by end-users. It has been particularly influential in the domain of e-government, where it has been employed to understand the adoption of digital government services. The UTAUT model, as initially formulated by Venkatesh et al. (2003), does not include certain critical factors that are particularly relevant in the e-government context, such as trust, risk, security, and privacy. These elements are essential for understanding user behavior and adoption rates of e-government services. Trust in government and the internet, perceived risk, and privacy and

security concerns are pivotal in shaping an individual's decision to engage with digital government platforms. They are also key determinants of the success of e-government initiatives, as they influence user intentions and actual usage behavior.

2.2 Perceptions ofthe media use environment

In this research, the perceptions ofthe media use environment contain trust and public value.

2.2.1 Public value

Public value transcends the mere aggregation of personal desires expressed by either the consumers or providers of public services. It represents a collective vision that is shaped through a collaborative process involving various entities. The notion of public value captures the broad goals and the practical efficacy of government policies, reaching beyond merely the services rendered by government agencies to the anticipated consequences, including the augmentation of trustworthiness and reliability. This includes a spectrum of individuals beyond those in elected or appointed positions; it also involves key stakeholders who are instrumental in shaping the core of public value, as highlighted by Stoker in 2006. This concept encompasses the objectives and effectiveness of public policies, which are intrinsically linked to the initiatives undertaken by governments, whether they are direct services or supportive actions.

The spectrum of public value transcends the realm of concrete results, encompassing intangible assets like trust and legitimacy that are essential for the robust operation of a democratic society. It is incumbent upon governments to generate public value by offering a broad array of services, establishing legislative structures, and implementing various initiatives that are crafted to fulfill the requirements and ambitions ofthe populace.

The determination of public value is a complex process that reflects the diverse preferences of citizens. These preferences are then interpreted and translated into policy decisions by elected politicians who are accountable to their constituents (Kelly et al., 2002). This dynamic interplay between the electorate and their representatives is fundamental to the democratic process and ensures that public value is not only created but also aligned with the broader interests of society.

In essence, public value is a multifaceted construct that is continuously negotiated and redefined through the interactions between government and its constituents. It is a reflection of the collective aspirations of a community and serves as a benchmark against which the success of public policies and services can be measured.

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2.2.2 Trust

Trust in the digital realm, particularly when it comes to e-government systems, is a multifaceted concept that encompasses the confidence citizens have in the security and privacy safeguards of online government services (Abu- Shanab, 2017; Rehman et al., 2011). This trust is not merely a theoretical construct but a pivotal predictor of the adoption and continued use of e-government platforms (Carter, 2008; Carter & Weerakkody, 2008). To quantify this trust, a set of four diagnostic questions can be formulated to gauge the level of confidence users place in the digital infrastructure of government services.

Furthermore, confidence in governmental entities is essential for the acceptance of innovative technologies, particularly those related to e-government services. In order for the public to fully adopt e-government initiatives, it is imperative that they have faith in the government's competence, administrative capabilities, and technical proficiency to effectively manage and carry out these online endeavors (Bélanger & Carter, 2008). This assurance is foundational

to building a robust trust that can translate into active engagement with e-government services.

Literature reviews by Verkijika and Wet (2018) and Gupta and Bhaskar (2016) corroborate the findings of earlier studies, Studies have consistently indicated that the level of confidence in governmental institutions significantly and positively influences the likelihood of embracing e-government systems. This implies that for individuals to wholeheartedly adopt e-government initiatives, they must be convinced of the government's competence, managerial proficiency, and technical know-how, which are essential for the efficient execution of digital initiatives (Belanger and Carter, 2008). This relationship underscores the importance of government transparency, reliability, and the effective communication of its technological capabilities in fostering an environment conducive to the uptake of e-government services.

2.3 E-government

The concept of e-government is articulated in various ways within academic literature. According to Silcock's (2001) study, e-government entails the application of technological advancements to enhance the provision and accessibility of governmental services for the benefit of the public, businesses, and governmental staff alike. It encompasses the utilization of information and communication technologies by governmental entities to streamline services and operations, such as the government, to improve its internal and external relations to realize the optimization and consistency of government services, increase the degree of public participation, and achieve the purpose of improving governance. The governmental service portal serves as a venue where public sector entities harness contemporary ICT to render services to citizens. The integration of cutting-edge IT applications with governmental administration is poised to refine the governmental service delivery, transform the government's operational paradigms, elevate the echelon of electronic governance, and stimulate reform within public institutions, thereby fostering further evolution in management frameworks(Fan et al., 2022). The government website also changes

government functions and improves government work efficiency and service level as the core of the website services, including electronic document flow, electronic procurement, electronic database, convenient services, and enterprise service (Lu, 2014).

China is focusing on advancing its e-government initiatives. “The 2020 United Nations E-Government Survey Report” indicated that China's e-government development index climbed to the 45th position globally, with its online service index specifically placing 9th worldwide. This achievement holds substantial practical importance for enhancing the country's governance capabilities. Concurrently, the Fifth Plenary Session of “the 19th Central Committee's report” for the same year outlined that during China's "14th Five-Year Plan" period, there should be an emphasis on "fortifying the construction of a digital society and a digital government." This entails leveraging cutting-edge information technologies, including big data and AI, to ensure that e-government delivers secure and efficient services across interactions between government entities, citizens, and businesses. That is, building digital government (Zhai, 2021). As a new stage of e-government development, some scholars define digital government as the government distributing information more efficiently based on digital technology from a technical perspective, the government is based on the empowerment, collaboration, and reconstruction of digital infrastructure from the organizational level, and believes that digital government will promote the modernization of national governance. (Huang, 2020).

3. Analysis models and hypotheses development

A plethora of theoretical frameworks and models have been crafted to dissect, scrutinize, and grasp the elements that sway the adoption and application of technological solutions across diverse settings. A substantial body of research on the acceptance of technology, notably in the realms of e-government and m-government, is grounded in established models and theories of technology

acceptance. These models are either used in their original form, combined with others, or augmented with additional factors. However, no single model is universally applicable across all contexts. Therefore, this research will focus on integrating aspects of government, technology, and individual behavior to develop a more comprehensive model.

3.1 Public value (PV)

Public value, in the context of government services, represents the collective benefits and outcomes generated by governmental actions to meet the needs and aspirations of a broad spectrum of stakeholders, including the general public and various industry sectors (Kelly et al., 2002; Karunasena & Deng, 2012). This construct is particularly pertinent in the realm of e-government, where it is manifested through the strategic employment of digital technologies to augment the quality and accessibility of public services (Dolan, 2015).

Striving for public value through e-government involves a dedication to utilizing ICT to revolutionize service delivery. The goal of this evolution is to ensure that services are accessible, streamlined, and adaptive to the changing needs of the public. By employing digital platforms, governments can ensure a higher degree of transparency, accountability, and customization in public services, thus enhancing the overall service experience for the users.

In essence, public value in e-government is about creating a digital ecosystem that is inclusive, interactive, and impactful. It is about using technology to bridge the gap between government and citizens, to build trust, and to foster a sense of shared ownership and responsibility in the governance process. By doing so, e-government can make a tangible difference in the lives of the people, contributing to the overall well-being and progress of society.

H1: **Public value** of government positively influences **use behavior** toward using the government website.

3.2 Performance Expectancy (PE)

Within the realm of technology integration, the belief in a technology's potential to boost job performance is a key cognitive element, known as performance expectancy. This factor encapsulates a user's confidence in the technology's ability to improve their work outcomes. As elucidated by Venkatesh et al. (2012), this expectancy is a measure of the anticipated gains in efficiency and effectiveness that a user believes will result from employing a specific technological solution. It is a critical component of the technology acceptance process, as it directly influences the user's decision to adopt and consistently use the technology in their work activities.

Performance expectancy is not merely about the immediate tasks at hand; it also pertains to the broader impact of technology on an individual's professional capabilities. It encompasses the belief that the technology will enable the user to accomplish their work with greater speed, accuracy, and quality, thereby leading to higher job satisfaction and professional success. This construct is a key driver of the perceived utility of technology, as it speaks to the core motivation of users to adopt technologies that can provide tangible benefits in their work processes.

For technology to be successfully adopted and integrated into the workplace, it is essential that the performance expectancy is not only met but also exceeded. When users experience the positive outcomes they anticipated, their trust in the technology grows, and they become more likely to recommend it to their peers and continue using it in the long term. This, in turn, can lead to a higher rate of technology adoption across the organization and a cultural shift towards embracing innovative solutions to work-related challenges.

In summary, performance expectancy is a fundamental construct in the technology acceptance model that shapes an individual's attitude and behavior towards technology use. It is through the lens of

performance expectancy that users evaluate the potential of a technology to enhance their professional endeavors, and it is the fulfillment of these expectations that can drive the widespread adoption and utilization of technology in the workplace.

H2: **Performance expectancy** positively influences **Use Behavior** toward using the government website.

3.3 Effort expectancy (EE)

Effort expectancy, as conceptualized by Davis et al. (1989), refers to the perceived level of ease or difficulty an individual anticipates when interacting with and utilizing a particular system. It encapsulates the individual's assessment of the system's user-friendliness, the simplicity of its interface, and the overall effort required to effectively operate and navigate within it. This dimension of technology acceptance is critical in determining an individual's willingness to adopt and integrate a new system into their daily routines, as a lower level of effort expectancy is generally associated with higher satisfaction and a more favorable attitude towards the system. Moreover, effort expectancy serves as a key antecedent to the adoption and continued usage of information systems, as it directly influences the perceived utility and value of the system to the user. Thus, a thorough understanding of effort expectancy is essential for developers and designers seeking to optimize user experiences and facilitate the widespread adoption of their systems.

H3: **Effort expectancy** positively influences **Use Behavior** toward using the government website.

3.4 Social influence (SI)

Within the UTAUT framework established by Venkatesh et al. (2003), social influence is defined as the impact of an individual's social environment, including colleagues, leaders, or social networks, on their choice to accept and utilize new technological systems. It reflects the degree to which individuals believe that key others in their social sphere anticipate, advise, or pressure them to adopt the technology. This aspect highlights how social interactions and group dynamics can significantly influence an individual's willingness to integrate new technologies into their work processes.

H4: **Social influence** positively influences **Use Behavior** toward using the government website.

3.5 Trust in Internet (TI)

It is a broadly recognized notion among academic experts and industry professionals that trust is a critical component in promoting the extensive adoption and effective deployment of Internet-based technologies. This concurrence emphasizes the role of trust as a key driver that facilitates the general public's willingness to embrace and leverage digital innovations. When it comes to the domain of e-government, which encompasses the electronic provision of governmental services, trust manifests in a multi-dimensional manner. It is typically characterized by two core aspects: the trust that citizens place in their government institutions, and the trust they have in the Internet as a viable platform for conducting such services.

In summary, the widespread adoption and successful implementation of Internet technologies, particularly in the context of e-government, are inextricably linked to the level of trust that exists between the government and its constituents. Trust, therefore, becomes a pivotal factor that must be carefully cultivated and nurtured through transparent, reliable, and secure e-government practices.

H6: **Trust in the Internet** positively influences **Use Behavior** toward using the government website.

3.6 Trust in government (TG)

Trust in government is indeed a cornerstone of the dynamic between the populace and the administrative entities that serve them, with particular significance in the context of e-government services. This trust is a complex construct, reflecting individuals' evaluations ofthe honesty, capability, and dependability of government agencies in the digital service domain, as noted by Bélanger and Carter (2008), Lallmahomed et al. (2017), and Zhao and Khan (2013). It is a sentiment that is shaped by the public's perception of the government's commitment to integrity, the effectiveness of its digital policies and programs, and its commitment to safeguarding personal information within the digital ecosystem.

In the digital age, where e-government services are becoming increasingly prevalent, trust is a critical factor that can determine the success or failure of digital initiatives. It is through the lens of trust that citizens assess the credibility of online services, the security of their interactions, and the overall value that these services add to their lives. Therefore, building and maintaining trust must be a priority for governments seeking to enhance the adoption and use of e-government services. This involves not only the implementation of robust technical solutions but also the cultivation of a culture of transparency, accountability, and citizen-centric service design.

H5: **Trust in the government** positively influences **Use Behavior** toward using the government website.

3.7 Facilitating conditions (FC)

Facilitating conditions encompass the degree of confidence an individual possesses in the existence and adequacy of both organizational structures and technological infrastructure that are specifically designed to enable and promote the seamless utilization of a given system. These conditions, as articulated by Venkatesh et al. (2003), relate to the extent to which an individual perceives the organization to have established the necessary framework, policies, procedures, and technological resources that facilitate the adoption, integration, and effective employment of the system in question.

H7: **Facilitating conditions** positively influences **use behavior** toward using the government website.

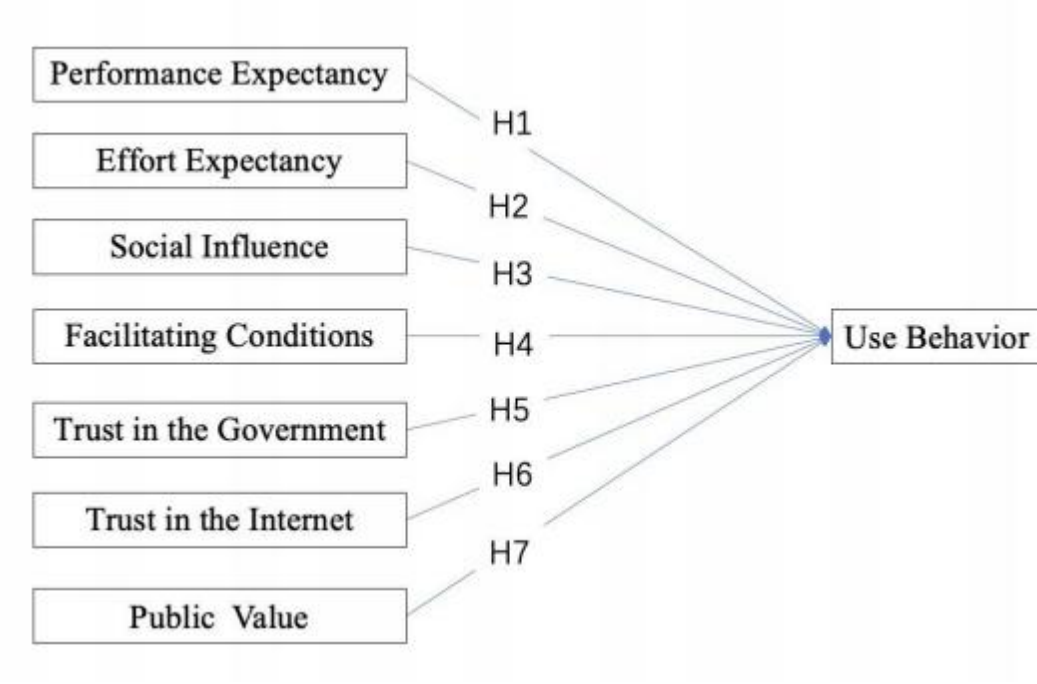

Fig 2. The Research Model

4. METHODOLOGY

In the quest to uncover insights into the dynamics of citizen adoption of e-government services, this study embraced a rigorous quantitative research approach. At the heart of the analytical process was Structural Equation Modeling (SEM), a sophisticated statistical technique that facilitates the examination of complex relationships among multiple variables. The SEM analysis was conducted using the SmartPLS software, a powerful tool renowned for its ability to handle latent constructs and provide robust insights into the structural relationships within the data.

To gather the necessary data, the study opted for an online questionnaire survey, a method that has become increasingly prevalent in the realm of technology adoption research. This approach not only allowed for a wide reach but also ensured the convenience and efficiency of data collection. The questionnaire was meticulously crafted to encompass 52 questions, each designed to tap into various aspects of the research variables. These variables were carefully selected based on existing literature and then tailored to reflect the unique context of China's e-government landscape.

To ensure a high level of respondent engagement and to accurately capture the nuances of their attitudes and perceptions, a five-point Likert scale was employed. This scale, which spans from "strongly disagree" to "strongly agree," is a standard tool in survey research, providing a clear and intuitive framework for respondents to express their level of agreement with each statement.

Recognizing the importance of questionnaire clarity and relevance, a pre-survey was conducted with a group of 30 volunteers. This preliminary phase served a dual purpose: it allowed for the

assessment of the questionnaire's comprehensibility and it offered an opportunity to refine the instrument based on the initial feedback. The volunteers' responses and suggestions were invaluable in making the necessary adjustments to the questionnaire, ensuring that it would effectively capture the intended constructs and provide a solid foundation for the subsequent analysis.

Through this meticulous research design and data collection process, the study aimed to provide a comprehensive and reliable examination of the factors influencing the adoption of e-government services among Chinese citizens. The combination of a robust research methodology and a carefully crafted questionnaire set the stage for a thorough and insightful analysis.

Adult citizens of China formed the target sample population for this survey, aiming to represent a diverse range of educational levels, geographic locations, genders, and age groups. Given that all internet users could participate without restrictions, the survey was conducted as an unrestricted self-selected survey, posted on multiple websites. Initially, the study targeted adult Chinese citizens as the population, but due to difficulties in sampling and the vast population size, the focus was narrowed to online users who were residents of Guangdong Province. The population size was determined to be extensive, making it impractical to reach within the time and resource constraints. To address this challenge, a representative sample was selected for data collection.The permanent population of Guangdong Province in 2022 was 126,840,000. According to Krejcie and Morgan's formula (1970), the minimum required sample size for a population of this size is 384.

Often used to assess the Internal Consistency Reliability of the indicators is Cronbach’s Alpha(α); the index in the process of calculation assumes that all indices are also reliable, with the

correlation between observations of indicator variables to estimate the reliability. The combination reliability value between 0.70 and 0.90 is considered satisfactory (Nunally J.C. & Bernstein I., 1994). In this study, the combination reliability meets the requirements.

To ascertain the extent of divergence among latent variables and to evaluate their status as distinct constructs, discriminant validity plays an essential role. As posited by Fornell and Larcker (1981), Chin (1998a), and Pavlou and Gefen (2004), discriminant validity is confirmed when the root of the Average Variance Extracted (AVE) for a construct surpasses the correlations between that construct and other constructs. The distinctiveness of two latent variables can be gauged by examining the relationship between the AVE's square root and their inter-construct correlation coefficients. A model exhibits strong discriminant validity if the square root ofthe AVE is markedly greater than the inter-construct correlations, indicating that the constructs are indeed separate entities (Hair et al., 2014).

It is imperative for the research to delve into the HTMT (Heterotrait-Monotrait ratio) matrix, as depicted in Table 1, where the ratios in all rows should surpass the threshold of 0.9. This criterion ensures that the constructs are not only different from one another but also that they possess a clear and unique identity within the context of the study. The HTMT test provides a more stringent assessment of discriminant validity, offering further assurance that the constructs are empirically distinct and that the measures used are capturing unique aspects of the constructs as intended.

	EE	FC	PE	PV	SI	TG	TI	UB
EE								
FC	0.824							
PE	0.762	0.797						
PV	0.787	0.775	0.764					
SI	0.88	0.894	0.871	0.783				
TG	0.876	0.736	0.822	0.732	0.894			
TI	0.819	0.79	0.757	0.734	0.883	0.764		
UB	0.709	0.724	0.654	0.813	0.793	0.638	0.605	

Table 1: The HTMT Calculation Results

5. Result

To analyze the questionnaire data, the main analysis utilized the partial least squares type of SEM, i.e., PLS-SEM, to estimate the model and test the hypotheses. The SEM is a statistical method that can deal with the causal relationship between multiple variables and produce the digital and visual expression of the causal relationship. This concept can be traced back to the 1970s and has played an excellent role in solving practical problems by integrating factor analysis and path analysis. With the development of the theory and technique of the SEM, it has become essential knowledge for researchers in social science and other fields. So, smart PLS will be used to assess the measurement and structural model in this study. The following table 2 show the result.

Hypothesis	**Hypothesis Testing Relationship**	**Std Beta**	**Std Error**	**t-value**	**P Value**	**Decision**	**Confident Interval**	
							LL	**UL**
H1	Public Value -> Use Behavior	0.312	0.03	10.388	0.000	Support	0.246	0.370
H2	Performance Expectancy -> Use Behavior	0.011	0.04	0.286	0.775	**Rejected**	-0.066	0.084
H3	Effort Expectancy -> Use Behavior	0.163	0.037	4.376	0.000	Support	0.088	0.230
H4	Social Influence -> Use Behavior	0.415	0.037	11.089	0.000	Support	0.339	0.492
H5	Trust in the Government -> Use Behavior	-0.047	0.031	1.539	0.124	**Rejected**	-0.106	0.018
H6	Trust in the Interne -> Use	-0.0	0.038	2.564	0.011	Support	-0.1	-0.0

	Behavior	97					86	24
H7	Facilitating Conditions -> Use Behavior	0.112	0.04	2.82	0.005	Support	0.043	0.186

Table 2: The hypothesis test result of research

This academic pursuit primarily sought to empirically evaluate the effects of a spectrum of factors related to the adoption and use of e-government services on end-user actions. The research included a wide range of elements, such as societal benefit, anticipated performance gains, ease of use, peer influence, confidence in public institutions, cybersecurity trust, and supportive environments, all of which were considered as potential influencers of how users engage with online government services. The comprehensive methodology of the study was designed to decipher the intricate relationships among these elements and to understand their aggregate impact on the formation of digital interaction trends in governmental contexts.

In the realm of e-government, where the digital delivery of public services is becoming increasingly prevalent, the role of trust emerges as a pivotal element in shaping user perceptions and subsequent behaviors. Trust in government institutions is crucial, as it reflects citizens' confidence in the integrity, competence, and reliability of these institutions to provide secure and efficient digital services. Concurrently, trust in the internet as a medium for service delivery is equally significant, as it pertains to users' faith in the technological infrastructure to ensure data privacy and security.

The study's empirical analysis sought to establish the extent to which these factors contribute to the formation of a robust digital governance framework that fosters user trust and encourages the adoption of e-government services. By examining the direct and indirect effects of these factors, the research aimed to provide actionable insights for public administrators and policymakers seeking to enhance the efficacy and reach of e-government initiatives. The findings are expected to inform strategies aimed at bolstering user confidence in e-government services, thereby

promoting greater civic participation and improving the overall quality of public service delivery in the digital age.

Upon conducting a thorough analysis using Structural Equation Modeling (SEM), the study yielded significant insights into the dynamics of e-government service adoption. The results indicated that several of the investigated factors have a direct and positive influence on use behavior. Specifically, public value, effort expectancy, social influence, trust in the internet, and facilitating conditions were found to be statistically significant predictors of use behavior. This was evidenced by the positive path coefficients associated with these variables, suggesting that as these factors increase, so does the likelihood of users engaging with e-government services.

Public value, which encapsulates the collective benefits and goals derived from e-government services, emerged as a key driver of use behavior. This underscores the importance of aligning service offerings with the needs and expectations of the citizenry. Effort expectancy, reflecting the perceived ease of using e-government services, also played a crucial role, highlighting the need for intuitive and user-friendly platforms. Social influence, which captures the impact of social networks and peer opinions on adoption decisions, was another significant factor, emphasizing the social aspects of technology acceptance.

Trust in the internet, a critical component in the digital era, was identified as a significant predictor, indicating that users are more likely to engage with e-government services when they feel secure and confident in the online environment. Lastly, facilitating conditions, which encompass the support structures and resources that enable the use of e-government services, were found to directly influence use behavior, suggesting that a supportive infrastructure is essential for fostering adoption.

However, the study found that the hypotheses related to performance expectancy and trust in the government did not hold up under statistical scrutiny and were therefore not supported. Performance

expectancy, which was expected to influence use behavior by reflecting the perceived advantages of e-government services, did not show the anticipated direct effect. Similarly, trust in the government, which was hypothesized to play a role in shaping use behavior, did not exhibit a significant direct influence. The rejection of these hypotheses suggests that other factors may be at play or that the relationship between these variables and use behavior is more complex than initially theorized.

In conclusion, while certain factors were confirmed to have a direct impact on the use behavior of e-government services, the study also highlighted areas where further research is needed to better understand the intricacies of technology acceptance in the public sector. These findings contribute to the ongoing discourse on e-government adoption and provide valuable insights for policymakers and service providers aiming to enhance the uptake and effectiveness of digital government services.

6. CONCLUSION

To investigate the factors influencing citizens using of government websites, this study extended the UTAUT model to develop a citizen adoption model, thereby contributing to theoretical innovation. Following the development of this model, which incorporates the construct of Media Environment Perception, our findings reveal that PV, EE, SI, TI, and FC significantly influence UB. These findings hold important implications for practical applications, providing guidance for the design and implementation of effective strategies to enhance citizens' adoption of government websites.

7. Discussion

7.1 Perceptions ofthe media use environment

Public value in the context of e-government is a multi-dimensional construct that encompasses a broad spectrum of societal impacts and extends beyond the mere provision of services. It is intricately linked

to the collective interests of citizens and is shaped through participatory processes that involve a diverse array of stakeholders. This concept goes beyond direct service outputs to include the broader societal impacts, such as enhancing public legitimacy and fostering a sense of communal trust and engagement. The enhancement of public value is pivotal as it significantly influences the propensity of individuals to engage with government online services, thereby contributing to the overall effectiveness and acceptance of e-government initiatives.

Trust in the government is a critical factor that determines the adoption of new technologies, particularly in the realm of e-government services. However, the relationship between trust and actual behavior in utilizing government websites is not always direct. It suggests that while trust may be high, it does not automatically translate to increased usage, indicating a complexity in the dynamics of trust and technology adoption.

During times of crisis, such as epidemics, the reliance on the internet for task completion becomes pronounced. Trust in the Internet, as defined by Abu-Shanab (2017) and Rehman et al. (2011), refers to the subjective belief in the security and privacy safeguards of online e-government systems. This trust has a direct bearing on individuals' intentions to use government websites, implying that enhancing trust in the Internet is a significant factor in encouraging engagement with e-government services.

Despite a high level of public trust in government institutions, skepticism may persist regarding the internet environment, which can influence trust in the Internet and, by extension, the use of government websites. This highlights the need for governments to not only foster trust in their institutions but also to ensure that the digital platforms through which they engage with the public are secure and trustworthy.

In summary, the multifaceted nature of public value and trust in government and the Internet are crucial in shaping user behavior and engagement with e-government services. It is through the

enhancement of these constructs that the digital divide can be bridged, and the full potential of e-government can be realized.

7.2 Performance Expectancy

Within the context of e-government, performance expectancy refers to the expected benefits and improvements that users believe will result from their engagement with digital public service platforms. This concept is pivotal as it directly influences a user's decision to adopt and consistently utilize e-government services, as it encapsulates their expectations of efficiency, effectiveness, and personal advantage.

The enhancement of performance expectancy is crucial as it can lead to a more profound engagement with e-government services, thereby fostering a positive user experience and encouraging continued use. When individuals perceive that using e-government services will streamline their interactions with the government, save time, and provide them with a higher quality of service, they are more likely to embrace these digital platforms.

Moreover, performance expectancy is not just about the immediate benefits but also about the long-term value that e-government services can bring to the users. This includes the ability to access services remotely, the convenience of 24/7 availability, and the potential for more personalized and responsive government services.

In the broader context of e-government, performance expectancy is one of the key drivers that can accelerate the digital transformation of government services. By focusing on improving performance expectancy, governments can ensure that their digital services meet the needs and exceed the expectations of their users, thus bridging the digital divide and ensuring that all citizens, regardless of their technical proficiency, can benefit from the advantages of e-government.

It is also important to consider that performance expectancy is shaped by various factors, including the user's previous experience with technology, the perceived reliability and security of the e-government platform, and the overall quality of service provided. Therefore, governments must invest in the user experience design, security measures, and continuous improvement of their e-government services to enhance performance expectancy and drive adoption.

7.3 Effort Expectancy

In the realm of e-government, effort expectancy represents a pivotal factor that reflects users' assessments of how effortlessly they can manage and use the government's digital interfaces. It captures the degree to which users feel the technology is user-friendly and the extent to which it demands little exertion to operate. This belief system is fundamental to the acceptance and ongoing engagement with e-government platforms, as it significantly shapes users' decisions to interact with such services and their behavioral patterns thereafter.

Enhancing effort expectancy is not just about simplifying the user interface; it also involves creating an environment where users can quickly accomplish their tasks without encountering barriers or frustrations. When users perceive that the e-government services are designed with their needs in mind, and that the system is responsive and straightforward, they are more likely to engage with it. This perception of ease can lead to increased satisfaction, which in turn can foster loyalty and a higher likelihood of repeated use.

The direct effect of effort expectancy on individuals' intentions to use and their actual behavior in utilizing government websites is significant. It is a key determinant of the initial adoption of e-government services and plays a crucial role in shaping user experience and satisfaction. As such, effort expectancy is a vital component in the development and evaluation of e-government initiatives, as it can significantly influence the success and reach of these services.

In summary, effort expectancy is a pivotal factor in the successful implementation of e-government services. It is through the lens of effort expectancy that users assess the value and convenience of digital government platforms, which ultimately determines their willingness to engage and the frequency of their use. By focusing on enhancing effort expectancy, governments can ensure that their digital services are accessible, user-friendly, and effective in meeting the needs of the public.

7.4 Social Influence

Social influence is a significant predictor of technology adoption. It reflects the degree to which an individual's decision to use a technology is shaped by the opinions and behaviors of others within their social sphere. This construct is particularly relevant in the context of e-government, where the acceptance and use of digital services can be heavily influenced by the perceived norms and expectations of peers, family members, and colleagues.

When users perceive that key individuals within their social circles not only endorse e-government services but also advocate for or anticipate their use, a favorable view of these services tends to emerge. Such positive perceptions can foster a stronger willingness to engage with the technology, which may then materialize into more frequent utilization. The documented impact of social networks on the acceptance of technology underscores the significance of communal validation and the influence of social affirmation on individual actions.

In conclusion, social influence is a key determinant of technology acceptance and use, and its impact on e-government services should not be underestimated. By understanding and leveraging the power of social influence, governments can foster a culture of technology adoption that extends beyond individual users to encompass entire communities, thereby enhancing the overall effectiveness and reach of e-government initiatives.

7.5 Facilitating Conditions

Facilitating conditions, as outlined by Venkatesh et al. (2003) in the UTAUT model, refer to the individual's perception of the support structures, both organizational and technical, that are in place to aid the use of a particular system. This construct is a critical element in the context of e-government, where the availability and effectiveness of support systems can greatly influence the adoption and ongoing use of digital services.

When individuals perceive that the necessary infrastructure, resources, and support are available to assist them in using e-government platforms, they are more likely to engage with these services. This perception includes the belief that the government provides the necessary tools, such as reliable internet access, user-friendly interfaces, and responsive customer service. It also encompasses the individual's access to the knowledge and skills required to navigate and utilize the technology effectively.

Enhancing facilitating conditions, therefore, is essential for encouraging individuals to not only attempt to use e-government services but also to continue using them over time. By ensuring that users have the support they need to overcome any challenges they may encounter, governments can increase the likelihood of successful interactions with digital services. This can lead to higher levels of user satisfaction and a greater willingness to recommend these services to others.

To improve facilitating conditions, e-government initiatives must focus on several key areas. First, they should ensure that the technological infrastructure is robust, secure, and capable of handling the demands of users. This includes investing in high-quality hardware, software, and network systems that can provide a seamless user experience. Second, governments should provide clear guidelines, user manuals, and tutorial resources to help users navigate the system with ease. Third, establishing a responsive customer support service can significantly enhance user confidence in the ability to resolve any issues that may arise.

Furthermore, facilitating conditions are not only about the immediate availability of resources but also about the ongoing maintenance and improvement of these support systems. As technology evolves, so too must the facilitating conditions that support it. This requires a commitment to continuous evaluation and enhancement of the support structures to ensure that they remain effective and relevant to user needs.

In summary, facilitating conditions play a pivotal role in shaping the user's interaction with e-government services. By investing in and maintaining a strong organizational and technical infrastructure, governments can create an environment that encourages and supports the use of digital services, leading to greater overall adoption and utilization of e-government platforms.

8. Contribution

This study deepens the understanding of how technology can facilitate the adoption of e-government by examining the role of citizen characteristics and socio-cultural influences on adoption decisions, leading to the following two contributions.

8.1 Practical Contribution

The practical contributions of this study are primarily focused on offering policymakers, government agencies, and e-government service providers actionable insights and recommendations. First, the research identifies key drivers for citizens' adoption of e-government services, such as system usability and usefulness. These findings can help government agencies concentrate on enhancing service quality and improving user experience during the design and implementation phases, thereby boosting citizen satisfaction and loyalty.

Second, the study underscores the significance of public value in e-government adoption. Public value is a critical factor influencing citizens' willingness to adopt e-government services. Therefore, governments must build and sustain trust by increasing transparency,

fostering participation and feedback, and delivering high-quality services. This approach not only increases the adoption rates of e-government services but also enhances the credibility and reputation of the government.

8.2 Academic Contribution

This study makes substantial contributions to the academic field, particularly in understanding the factors that influence the use of government websites. By integrating multiple dimensions such as technology, society, psychology, and culture, this research offers a multifaceted analytical framework. This interdisciplinary approach provides new perspectives on the study of e-government adoption, highlighting the complexity and diversity of citizens' engagement with e-government services across different socio-cultural contexts.

Furthermore, this study empirically validates the applicability of the UTAUT model in varied cultural settings and extends it by incorporating factors such as trust in the Internet, trust in government, and public value. The inclusion of these factors not only enriches the UTAUT theory but also deepens our understanding of how citizens evaluate and adopt e-government services. Notably, this research highlights the critical role of cultural factors in e-government adoption, an area often neglected in previous studies.

Finally, this study significantly enhances the academic literature on e-government. Through a detailed examination of e-government service adoption, this research provides valuable insights for policymakers and practitioners, aiding them in better understanding citizens' needs and expectations. Consequently, it enables the design of e-government services that more effectively meet the needs of citizens

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