

THE RELATIONSHIP BETWEEN E-GOVERNMENT EFFECTIVENESS AND E-GOVERNMENT USE: THE MEDIATING EFFECT OF ONLINE TRUST AND THE MODERATING EFFECT OF HABIT

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ABSTRACT

Governments in both rich and developing countries need to offer suitable e-government services to ensure citizens have trust and use them effectively and efficiently in today's digital and automated world. Users' trust and involvement in e-government have been negatively impacted by the current state of implementation, particularly in Jordan. Furthermore, to continue being responsive and effective, public administrations need to change the way they operate by utilizing more technology for communication and information. Client satisfaction and system trust will rise as a result of this. This article looks into the variables that influence the use of e-government. It further elaborates and investigates the mediating role of online trust in the relationship between e-government effectiveness and e-government use. It tests whether habit has any moderating effect on the relationship between e-government effectiveness and e-government use. Data from 471 e-government users were used to support the research model, which was examined using a structural and measurement model using SmartPLS 3.3.0. The findings show a direct relationship between e-government effectiveness and e-government use. Furthermore, the relationship between e-government use and efficacy is mediated by online trust. The results also show that habit moderates the relationship between the effectiveness and use of e-government. As a result, we can see the intention to utilize e-government again may be influenced by the practice of conducting business through the Internet. The implications for theory and practice in the area of e-government can drive public policy, and suggestions for future research are also highlighted.

Keywords: *E-government Effectiveness, E-government Use, Information Quality, System Quality, Service Quality, online Trust, habit.*

1. INTRODUCTION

E-Government (EGov) is a worldwide trend. Therefore, in recent years, interest in EGov has grown in various countries, because it enables rapid access to information to build relationships with various beneficiaries (Hung et al., 2020). Currently, EGov services encompass the

majority, if not all, of government-to-private-sector transactions, governments are adopting and employing technology to support the timely and efficient delivery of services to their residents, owing to the growing necessity of online services and information (Semwanga & Kahiigi, 2021). Constant advancements in information technology have created opportunities for

governments to provide information to their citizens more efficiently and cost-effectively (Semwanga & Kahiigi, 2021). It has also aided in the reduction of corruption, the availability of more transparent, accountable, and accessible public services, the promotion of e-democracy and e-participation, the rapid allocation of resources to meet citizens' demands, and the creation of more opportunities for government participation (Teo et al., 2008).

Therefore, in light of technological progress (the digital age), governments have tended to take advantage of these technologies in all their dealings, to get rid of traditional management to facilitate the services they provide and improve productivity (Ghawas & Abdisamd, 2020). Electronic government is considered one of the most important results of the digital revolution. Its emergence led to a qualitative shift in the performance of a business and the provision of services to beneficiaries (Bertot et al., 2010). Government organizations' methods and procedures for meeting user requirements have undergone significant modifications as a result of the Internet (Shareef et al., 2010).

Having an extensive set of measurements that enable accurate identification of performance improvements following the adoption of technological advances like EGov applications is crucial, especially considering the current level of development of EGov. The IS research community has conducted many studies on measuring the efficacy or success of information systems (Wang & Liao, 2008); nonetheless, scholars are still debating which constructs are most useful in measuring IS success. Six dimensions were established by the DeLone and McLean model (2003): individual impact, organizational impact, system quality, information quality, service quality, and user use and satisfaction.

A model of EGov systems success based on the updated IS success model of DeLone and McLean (2003) was given and validated by Wang and Liao (2008). The findings of Wang and Liao (2008) demonstrate that the following are valid indicators of the success of an e-Government system: User satisfaction, perceived net benefit (a unique net benefit factor that aggregates the impact measurements), quality of information, system value, quality of service, and use. The perceived

net benefit is a more accurate indicator of the success of an EGov system than the other five success indicators.

Another factor that has to be further investigated and clarified to its influence on enterprises' adoption of EGov usage is trust and habit. Numerous scholars (Santa et al., 2019) have examined the relationship between trust and the uptake of EGov offerings. Countries must offer a secure atmosphere and earn citizens' trust before creating an electronic contact channel (Abu-Shanab, 2014). The acceptance and utilization of new technology are influenced by trust. Many social network interactions require trust because it establish confidence in an entity's ability to act safely and reliably in a given situation (Ateş, 2021). In this sense, trust is a significant stimulant for EGov adoption and one of the most critical aspects of EGov strategy implementation. As a result, citizens will feel more comfortable sharing personal information, doing government transactions online, and engaging with EGov services (Ateş, 2021).

An essential emotional component of both personal and social life, habit, forces users of EGov channels to continue utilizing them. This is how routine improves public services. On the other hand, EGov channel non-users are heavily influenced by habit to stay away from them. According to Rey-Moreno et al. (2018), habit is the main element that explains how citizens behave when using government-provided ICT channels. Honkanen et al. (2005) revealed that when a significant habit exists, the presentation of behavioral goals is based on the complexity of preceding behavior rather than attitudes, which could minimize the impact of trust in EGov usage. Furthermore, Ji and Wood (2007) discovered that even when people say they don't want to do something, they usually do it anyhow. Although the development and acceptance of EGov deliver numerous potential benefits to individuals, corporations, and other government sectors, it is still a work in progress. Unfortunately, certain citizens in many countries continue to be hesitant to use online resources and EGov programs, which has an unfavorable impact on EGov acceptance (Bannister & Connolly, 2011). According to Aranyossy (2018), online trust, facilitation conditions, and habit are the most commonly associated with the use of informational EGov. According to Alharbi et al. (2016), trust is the element that has the greatest

impact on behavior intention, ranking third only to performance expectations and habit. Even though EGov implementation may be moving more slowly than anticipated (Meijer & Harris, 2010), there is a lot of scholarly interest in these systems because of their potential (Yildiz, 2007) regarding the difficulties in adopting and implementing them by businesses, organizations, and citizens. Even though there is a large amount of literature available on EGov (Hsieh et al., 2013), there are still few studies (Hsieh et al., 2013; Santa et al., 2019) that assess the efficacy and efficiency of government's digital services in emerging economies. Few studies have examined the role of citizens' trust in EGov, particularly in developing countries like Jordan, despite the significance of residents' trust in the EGov process (Alswalmh et al., 2024). Furthermore, by integrating habit and trust to determine the function of habit and trust in mediating and moderating the relationship between EGov use and efficacy, this study contributed to the field of knowledge. Furthermore, EGov is still far from realizing its fullest value as an internationally recognized online market, particularly in Arab countries, despite its rising popularity and significant influence on businesses and people's lives. (Santa et al., 2019; Joseph, 2013; Al-Hujran et al., 2015).

According to Carter et al. (2016), many EGov programs have had great success in wealthy countries but have failed miserably in underdeveloped countries. The fundamental impetus for this research is the low success of most EGov programs in developing nations (Garad & Qamari, 2021), including Jordan, in providing high-quality services. Jordan was rated (100) among United Nations member states in the EGov Development Index (EGDI) with a score of (0.6081), according to the UNE Gov Survey 2022. Jordan's ranking is still well below that of countries in Western Asia. After the United Arab Emirates (UAE), Saudi Arabia (31), Oman (50), Bahrain (54), Kuwait (61), and Qatar (78) were ranked thereafter. This is undoubtedly a jolt to the government's ability to improve EGov rollout across the country. The number of Jordanians who utilize the internet is constantly growing.

The following goals are sought after by this paper: (a) investigate the relationship between EGov use and effectiveness; (b) assess the relationship between EGov use and online trust; (c) determine whether online trust mediates the relationship

between EGov use and effectiveness; and (d) determine whether habits moderate the relationship between online trust and EGov use.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 E-Government Use

Most countries have already adopted EGov programs by the turn of the twenty-first century (Rosenberg, 2021). Governments have reaped significant benefits from the advancement of information and communication technologies through improving information and service delivery, for example, through the use of social media (Porumbescu, 2016). EGov, on the other hand, allows governments to make use of new technologies, such as providing access to government information and services, modifying their quality, and allowing for collaboration in operations (Nguyen, 2023).

The use of technology to enhance the provision of public programs and communication capabilities is known as EGov. As well as improving the efficiency and effectiveness of government operations to meet citizens' needs by increasing citizens' access to information and government services, enabling institutional business processes, reducing costs by combining and deleting redundant systems, and improving the effectiveness of government processes to meet citizens' needs (Mahmoodi & Nojedeh, 2016). Online services are accessible 24 hours per day, seven days per week, and are faster, cheaper, and more convenient (Rosenberg, 2021). Governments may be able to decrease expenses and enhance efficiency as a consequence, while individuals benefit from speedy, important to offer services (Carter & Bélanger, 2005; Rosenberg, 2021).

The acceptance of EGov services by citizens is a critical factor in the success of EGov programs (Liu et al., 2014). If the public does not use EGov services, they will not improve the delivery of public services (Nawafleh and Khasawneh, 2024). This begs the question of how citizens, particularly in Arab countries, can make better use of these services. However, in developing countries like the Middle East, little research has been done on the characteristics that influence citizen acceptance of e-government services (Alomari et al., 2012; Ahmad and Dhoon, 2024; Nawafleh and Fares, 2024). According to several

studies, there is a pressing need to perform EGov research studies in areas such as the Middle East (Joseph, 2013; Al-Hujran et al., 2015).

2.2 Online Trust

Recent incidents, such as the present situation, corruption issues, and the disclosure of classified material, have weakened popular trust in governments around the world Torcal & Christmann (2019). Citizens' trust in government acts reflects citizens' belief in what is right, perceived, and just (Pérez-Morote et al., 2020). Individuals' trust in government entities to operate in society's and constituents' best interests can be measured (Kim & Lee, 2012). A lack of trust can make it difficult to use technology for a variety of online activities (Alswalmh et al., 2024). Citizens are concerned about the security of personal data such as credit card numbers, thus the government must be able to increase citizen trust in its services and encourage them to adopt and use EGov (Rehman et al., 2012; Tegethoff et al., 2023).

Building trust between the government and stakeholders is critical since it affects how people interact, form meaningful relationships, and conduct business online (Alzahrani et al., 2017). The ability of service provider websites to instill norms of reliability and safety in service recipients determines user trust in the Internet ecosystem (Glyptis et al., 2020). Low trust in EGov services results in lesser engagement and, as a result, lower satisfaction, and vice versa (Teo et al., 2008). Governments must create trustworthy connections with citizens, agencies, and organizations before seeking to open electronic channels with them, as trust is a crucial component impacting the effectiveness of EGov services (Abu-Shanab, 2014).

2.3 E-Government Effectiveness

The effectiveness of EGov can be measured by how well the government's information technology infrastructure and services satisfy the needs of the people who use them (Tegethoff et al., 2019). For corporations and governments, EGov systems, for example, can give significant benefits, such as decreased communication and information expenses, faster access to services, and the removal of barriers (Santa et al., 2019; Mahmoodi & Nojehdeh, 2016). As a result, EGov is completely recognized as a technological advancement that allows for effective information management among all stakeholders, resulting in

increased efficiency and performance (Shan et al., 2011). According to studies, the efficacy of EGov has been embraced in terms of SysQual, InfQual, and SerQual (Santa et al., 2019; Tegethoff et al., 2019). As in the success model for information systems (Delone & McLean, 2003).

SysQual, which is dependent on the underlying characteristics of the system and represents the integrity of information processing in systems, is one of the three criteria that define the success of information systems in the DeLone and McLean information systems successful model (Nulhusna et al., 2017). Users are more likely to acknowledge that the service provider makes an effort to meet their wants if they think the features they want can be accomplished through the system (Xiao et al., 2010). Wang et al. (2010) suggest that users can be drawn to the quality characteristics of accessibility, such as speed of access and reliability, which could lead to a greater dependence on the system's surroundings. Similar to this, Purian (2012) suggests that user happiness and views of a system's usefulness and ease of use are all related to the development of trust. These findings show that enhancing SysQual will boost trust in the level of service provided through the Internet. Users must engage effectively with EGov websites (Al Balushi, 2020). InfQual refers to a government website's capacity to serve citizens with accurate, complete, relevant, succinct, and timely information (Li & Shang, 2020). Although EGov services have progressed from a one-sided information distribution stage to an interactive stage between government and the public, InfQual remains a critical component of the quality of service given online and of users' expectations (Carter & Bélanger, 2005).

The accuracy and timeliness of government website information are critical. A recent study indicated that many government websites, even in nations with a high level of EGov, failed to update information swiftly (Rehman et al., 2012). Obtaining high-quality information through the EGov service, on the other hand, makes it a dependable and trustworthy source for achieving the intended outcomes (Weerakkody et al., 2016; Khan et al., 2021). Poor InfQual leads to poor government Decision-making because of InfQual is a fundamental building component and continues to be critical to the success of EGov systems (Lee & Levy, 2014).

2.4 Hypothesis Development

According to Veeramootoo et al. (2018), SysQual has a favorable impact on user happiness. According to Yakubu et al. (2018), when a user sees that the system provides them with features that will impact their behavior, they are more likely to perceive the system's usefulness to them, establishing an intent to use it in the future. According to Cheng (2014), InfQual, SysQual, and SerQual, all have a role in boosting perceived usefulness (PU), which leads to a desire to use the system. Users of an online service are more likely to confess that the service provider intends to meet the needs of its system if they believe the system can satisfy the features they seek (Xiao et al., 2010). In addition, Wang et al. (2010) claim that systems offer qualities like stability and speed of access that might impress users with the quality of EGov and boost users' reliance on the system environment. The quality characteristics of Jordanian EGov systems have an impact on citizens' trust in them, thus they must be considered while developing any new government system in the country (Alswalmh et al., 2024). According to Alshaher (2020), customers' expectations regarding system performance will determine how much or how little trust they have in EGov services, especially when using them continuously. Consequently, we can assume the following:

H1. SysQual promotes EGov use

H2. SysQual promotes online trust.

Users' overall assessments of quality in a virtual reality setting are referred to as e-SerQual, and it is one of the most vital aspects in deciding the success or failure of EGov (Sachan et al., 2018). The best way to please the user, and the ultimate intent to adopt, in the context of any e-service (e.g., EGov, e-banking), is to provide high-quality services (Kumar et al., 2020b; Kumar et al., 2020a).

Perceived service value is a crucial mediating factor between SerQual and citizens' willingness to use services indefinitely, according to Li and Shang (2020), and citizens' intention to use is a result of the quality of service value. Citizens' opinions of technological trust, organizational merit, and the quality of EGov services and internet experience all have a direct impact on EGov trust, according to Colesca (2009). According to Razak et al. (2018), there is a link

between the System's advantages (quality of service), user enjoyment, and e-government acceptance.

Perceived SerQual and perceived usefulness of EGov are positively significant in affecting the intention to use EGov services, according to Mensah and Mi (2017), and Kanaan et al. (2023). Sharma (2015) found that SerQual parameters such as dependability, security, responsiveness, and efficiency, were among the most important factors of willingness to use EGov services. According to Aljazzaf (2023), a variety of elements, including perceived use, security, quality, and social impact, affect people's intentions to trust e-government. According to Mansoor (2021), the level of service provided by EGov websites have a significant impact on public trust and their aim to assist citizens as users. According to Slack et al. (2020), service quality is becoming more and more important in determining the success or failure of EGov portals as well as in providing users with an interactive information flow experience that suggests changes to business execution. As a result, we can make the following assumptions:

H3. SerQual promotes EGov use.

H4. SerQual promotes online trust.

Several earlier research has found a significant effect of InfQual on intent to utilize technology, with some studies finding a non-significant effect. According to Ramayah et al. (2010), the quality of information can influence a person's decision to use online systems. According to Peter and McLean (2009), the InfQual of online systems can influence users' willingness to use technology. According to Yen et al. (2023), the quality of information, system, and service with interest perception, perceived ease of use, privacy, and security all contributed to EGov trust.

The higher individuals' judgments of the quality of the information in the digital context, the more they should trust it, according to Kim et al. (2008). According to previous studies (Mensah et al., 2018; Veeramootoo et al., 2018), the quality of information has a major impact on the intention to use e-services. Perceived InfQual, according to Kaushik and Mishra (2019), has a direct, positive effect on EGov. According to Hidayat Ur Rehman et al. (2023)'s findings, service quality, system quality, and perceived trust all have a

substantial impact on how effectively government websites are used and how satisfied users are with them. According to Kanaan et al. (2023), trust in EGov services, projected security, privacy perception, system quality, and information quality are all positively and significantly correlated. Availability, objectivity, utility, secrecy, and integrity were all discovered to positively promote the desire to use e-government services, as stated by Mensah and Mwakapesa (2023). As a result, we can make the following assumptions:

H5. InfQual promotes EGov use.

H6. InfQual promotes online trust.

Individuals' trust in government services is driven by worries about data protection, according to many studies, making EGov difficult to use (Bélanger & Carter, 2008). According to the findings of Nam (2014) on the adoption of EGov services, trust in government may be more significant than trust in technology, given that trust in technology is high and trust in government is low. According to Tolbert and Mossberger (2006), higher levels of trust in government are linked to a greater focus on using e-government services. Citizens who find EGov services transparent are more likely to return to them, recommend them, and have faith in them. According to Pérez-Morote et al. (2020), the quality of services given influences people's utilization of e-government services. According to Carter and Bélanger (2005), citizens' intentions to use EGov services are influenced by their perceptions of trustworthiness. Citizens must trust both the government agency delivering the service and the underlying technology via which the service is supplied, i.e. the Internet, according to Bélanger and Carter (2008).

Individuals' trust in the government, according to Alomari et al. (2012), is a crucial factor in their decision to use e-government services. According to several pieces of research, trust in government has a beneficial impact on the motivation to accept or use e-government programs (Bélanger & Carter, 2008; Beldad et al., 2012; Abu-Shanab, 2014; Wang & Lo, 2013). Rehman et al. (2012) and Chen et al. (2018) discovered that perceived usefulness and trust have a favorable impact on the intention to use EGov in the future. According to Zeqiri et al.'s studies from 2023, trust and e-

WOM mediate the association between perceived values and repurchase intention. According to Khattab et al. (2023), the interaction between financial bonds and structural bonds on e-commerce use was totally mediated by the customers' online trust. However, the association between social ties and e-commerce use was somewhat mediated by the clients' online trust. According to Mellouli et al.'s research from 2023, trust is a major motivator for using an e-government system and creates long-term benefits. According to Kanaan et al. (2023), there is a strong and positive correlation between the intentions to use EGov. services and one's trust in them. As a result, we can make the following assumptions:

H7. Online trust promotes EGov use.

H8. Online trust is mediating the relationship between SysQual and EGov use.

H9. Online trust is mediating the relationship between InfQual and EGov use.

H10. Online trust is mediating the relationship between SerQual and EGov use.

2.5 Habit

In the context of information systems, a habit is described as a degree to which humans learn to establish automatic behaviors. Without the requirement for information regarding a purpose or decision to act, habit development entails creating connections in memory between guiding principles of repetitive action and aspects of the environment in which that behavior occurs. Without conscious intent, learned behaviors become repetitive behavior (Limayem et al., 2007; Rey-Moreno et al., 2018). The relevance of automatic habit-guided use that goes beyond conscious behavior and is largely driven by intention is highlighted by the combined effect of intentions and habits (Rey-Moreno et al., 2018).

When a habit is present, the display of intent to use is found to be more dependent on the sophistication of previous conduct than on contexts (Honkanen et al., 2005). Habits might be purposeful or unconscious when it comes to using EGov. Many people anticipate habit (pro-intent) to behave with intent, which leads to the same outcome in terms of actual citizen behavior. As a

result, many current EGov users are likely to keep this habit, making it a factor supporting the purpose of continuity. The role of habit as a moderator has been studied previously. Limayem et al. (2007), for example, claim that habit moderates the link between intention and behavior continuity when utilizing information systems. Chiu et al. (2012) presented the modified role of habit in the relationship between trust and repurchase intent. According to Ouellette and Wood (1998), when a behavior becomes a habit, it gets natural and is performed without much thinking. A habit is a powerful tool. It reduces danger by decreasing cognitive knowledge of uncertainty, therefore the most beneficial habit is trust. Habit, according to Hsua et al. (2015) and Casaló et al. (2010), modifies the link between trust and repurchase intention.

Habit had a favorable and significant impact on cognitive intention and use behavior characteristics, according to Nuraini et al. (2023). Consumer behavior, according to Nazir et al. (2023) positively modifies the link between repurchase intention and a favorable consumer experience. As a result, we can make the following assumption:

H11. Habit is moderating the relationship between online trust and EGov use.

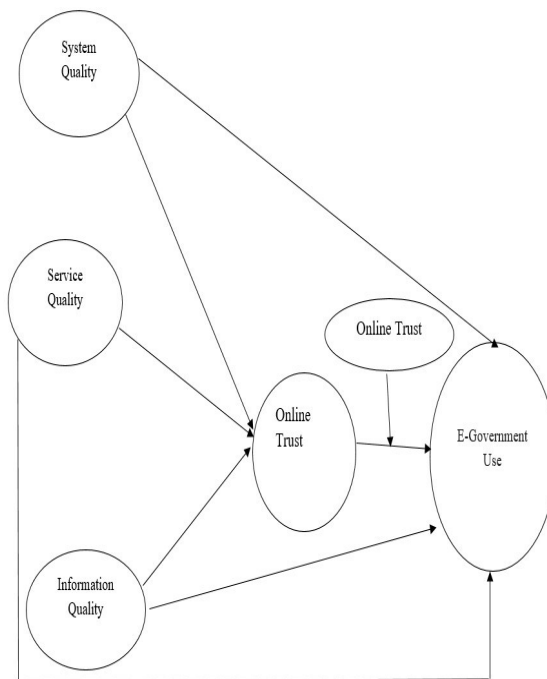


Figure 1. Conceptual framework

3. METHODS

Survey data and a research procedure for assessing the complete study construct in the theoretical framework were used to empirically examine the research hypotheses. By evaluating previous literature on similar themes and altering existing measures, the scales for the study constructs in the suggested theoretical model were established. We constructed an early information-gathering tool after laying the theoretical groundwork and reviewing related literature.

3.1 Sampling And Data Collection Instrument

Using a quantitative research design to gather data based on the public opinion, views, and behaviors connected to an issue without the interference, bias, or manipulation of researchers (Kelley et al., 2003). A self-questionnaire was developed in Jordan to gather responses from EGov app users who are at least eighteen years old, as this is the legal age as well as the age at which they can access EGov services. Citizens over the age of 18 use the Internet regularly; they are more tech-savvy and familiar with online services (Lallmahomed et al., 2017).

A poll of Instagram, Twitter, and Facebook account followers was used to get the necessary information. These programs are widely used in Jordan, where the number of social networking app users has surpassed 8 million. One thousand and two hundred survey questionnaires were delivered to residents who had recently used EGov programs. With a response rate of 50%, a total of (504) were recovered. All of the retrieved questionnaires were checked for completeness, and 33 of them were considered unsuitable owing to missing responses. As a result, there were (471) valid questionnaires for analysis, with a response rate of (39%), which is comparable to international business study response rates (Mellahi, 2016).

3.2 Measurement Instrument

In this study, all variables were measured using numerous items on a five-point Likert scale.

SysQual was measured with six-item adapted from (AL Athmay et al., 2016; Nulhusna et al.,

2017; Santa et al., 2019; Li & Shang, 2020). That calculates (Security, Navigability, Efficiency, logging on to the government website every time, system easy to use, and friendly).

SerQual was assessed using a five-item derived from (DeLone & McLean, 2003; Nulhusna et al., 2017; Santa et al., 2019). That covers (Tangibility, Reliability, Responsiveness, Empathy, and Assurance).

InfQual was measured through six-item based on the previous studies (AL Athmay et al., 2016; Nulhusna et al., 2017; Santa et al., 2019).

That covers (Currency, Accuracy, Relevance, Completeness, validity, and organization).

Online trust was assessed using a set of items adapted from (Santa et al., 2019; Al-Hujran et al., 2015). that measures (I am aware of online trust; I am worried about fraud when placing a service order through EGov websites; I am concerned about online validity; E-government websites have suitable safeguards, to put my mind at ease; legal and technical frameworks successfully shield me from any problems when using e-government websites and/or Authority's site(s). The e-government website has evolved into a secure and reliable platform for accessing government services in general. I am comfortable with the e-government website and/or the Authority's site(s) in general. In my opinion, the EGov website and/or the Authority's site(s) are reliable.

EGov use was made up of a variety of items from (Al-Hujran et al., 2015; Sharma, 2015). that measures (I believe that using the EGov website and/or Authority's site(s) to access government services is a great idea, I understand the concept of using the EGov website and/or Authority's site(s) to access government services, and I intend to continue using the EGov website and/or Authority's site(s) to access government additional services.

The habit we measured the habit through the five-item from (Chiu et al., 2012; Ambalov, 2021) that measures (I use government services frequently, automatically, without thinking, and without having to actively remember . I've been doing it for quite some time).

3.3 Assessing The Measurement Model

In Smart PLS 3.3.0, confirmatory factor analysis was performed to evaluate the measurement tool and the psychometric properties of the measures. Composite reliability is a tool used to evaluate internal consistency. More than 0.80 is the recommended composite reliability (Fornell and Larcker, 1981). According to Fornell and Larcker (1981), significant factors should load over 0.7 and have an average extracted variance (AVE) of at least 0.5. Over 0.7 loadings were kept. Acceptable convergent validity is indicated by the composite reliability of our measures being better than 0.80 and the AVE exceeding the suggested value of 0.5 (Table 1). Cronbach's alpha, a widely used technique for assessing the internal consistency and reliability of scales, was applied to determine the scale's dependability (Cronbach, 1970). According to Hair et al. (2009), if each construct's Cronbach's alpha score is equal to or higher than 0.70, the scale's reliability is commonly recognized. As can be shown in Table 1, the components included in the study's model have a high degree of internal consistency, with Cronbach's alpha values ranging from 0.813 (SerQual) to 0.946 (Online trust). Additionally, the ratio of heterotrait to monotrait (HTMT) was assessed. As can be shown in Table 2, every variable has a discriminant validity of less than 0.90, which is considered acceptable (Benitez et al., 2020; Henseler et al., 2015).

Table (1) Measurement Model Results.

Items	Factor loading	CR	AVE	α
SysQual				
SYQ1	0.922	0.921	0.723	0.832
SYQ2	0.743			
SYQ3	0.906			
SYQ4	0.922			
SYQ5	0.857			
SYQ6	0.788			
SerQual				
SEQ1	0.851	0.879	0.658	0.813
SEQ2	0.779			
SEQ3	0.851			
SEQ4	0.834			
SEQ5	0.762			
InfQual				
INQ1	0.844	0.935	0.699	0.878
INQ2	0.834			
INQ3	0.854			
INQ4	0.716			
INQ5	0.841			
INQ6	0.863			
Online trust				
OLT1	0.850	0.946	0.720	0.946
OLT2	0.833			
OLT3	0.842			
OLT4	0.837			
OLT5	0.829			

OLT6	0.845			
OLT7	0.853			
OLT8	0.863			
EGov use				
EGU1	0.842	0.943	0.709	0.871
EGU2	0.816			
EGU3	0.875			
EGU4	0.877			
EGU5	0.815			
EGU6	0.826			
EGU7	0.821			
EGU8	0.829			
Habit				
HA1	0.826	0.906	0.675	0.882
HA 2	0.788			
HA 3	0.854			
HA 4	0.847			
HA 5	0.770			

3.4 Assessing The Structural Model

To test the structural model, nonparametric bootstrapping was used. A bootstrapping

approach with 5,000 re-samples was used to achieve this. P-values and t-values were also used to confirm the β -coefficient hypothesis. The coefficient of determination (R²) was employed to measure the model's fitness at the same time.

Table (2) Heterotrait-Monotrait (Hmt) Ratio

variable	mean	STD. Deviation	1	2	3	4	5	6
E-gov. use	4.079	0.52	0.817					
Habit	4.029	0.66	0.724	0.832				
Online trust	3.871	0.75	0.495	0.506	0.831			
SysQual	3.802	0.66	0.445	0.465	0.683	0.845		
SerQual	4.178	0.42	0.613	0.556	0.538	0.559	0.807	
InfQual	4.000	0.54	0.595	0.660	0.647	0.414	0.408	0.850
The diagonal (bold) numbers are the square root of the AVE								

3.5 Direct Hypothesis

Table (3) shows that there is a positive and significant relationship between EGov utilization and SysQual. ($\beta = 0.122^{**}$, $t = 2.329$), SerQual ($\beta = 0.103^{**}$, $t = 2.844$) and InfQual ($\beta = 0.136^{***}$, $t = 3.113$). Therefore, hypotheses H1, H3, H5 are supported. Furthermore, there is a positive and significant relationship between online trust and SysQual ($\beta = 0.173^{***}$, $t = 3.690$), SerQual ($\beta =$

0.290^{**} , $t = 4.691$) and InfQual ($\beta = 0.164^{***}$, $t = 2.682^{**}$), this supports hypotheses H2, H4, H6. Therefore, online trust also has a positive significant influence on EGov use ($\beta = 0.433^{***}$, $t = 7.860$), thus, H7 is supported. The R2 for the direct path effect of SysQual, SerQual, and InfQual, on online trust, was 0.556. Moreover, the R2 for the direct path effect of online trust on EGov use was 0.604.

Table (3): The Results Of Path Analysis

Hypothesized	Path	Estimate	t-value	Findings
H1	SysQual → E-GU	0.122**	2.329	confirm
H2	SysQual → OLT	0.173***	3.690	confirm
H3	SerQual → E-GU	0.103**	2.844	confirm
H4	SerQual → OLT	0.290***	4.691	confirm
H5	InfQual → E-GU	0.136***	3.113	confirm
H6	InfQual → OLT	0.164***	2.682	confirm

H7	<i>OLT → E-GU</i>	0.433***	7.860	confirm
H8	<i>SysQual → OLT → E-GU</i>	0.199***	4.087	confirm
H9	<i>SerQual → OLT → E-GU</i>	0.121***	3.215	confirm
H10	<i>InfQual → OLT → E-GU</i>	0.161***	3.899	confirm
H11	<i>OLT * HA → E-GU</i>	0.235***	4.476	confirm
Notes: * $p < 0.05$ ** $p < 0.01$; *** $p < 0.001$				

3.6 Mediating Hypothesis

Table (3) presents the significant indirect effects for SysQual ($\beta = 0.199^{***}$, $t = 4.087$), SerQual ($\beta = 0.121^{***}$, $t = 3.215$), and InfQual ($\beta = 0.161^{***}$, $t = 3.899$) on EGov use. The total effect of the EGov effectiveness (SysQual, SerQual, and InfQual) on EGov use was 0.842^{***} out of which 0.361^{***} was the direct effect, and 0.481^{***} was the indirect effect via an online trust. These findings support hypotheses H8, H9, H10.

3.7 Moderating Hypothesis

Using the indicator technique, interaction terms between the moderator (habit) and the independent variable (online trust) were created to examine the moderating influence of a construct in PLS-SEM (Chin et al., 2003). On the relationship between EGov efficiency (SysQual, SerQual, and InfQual) and EGov use, the interaction between online trust and the habit was shown to be positive and significant ($\beta = 0.235$, $t = 4.476$, $p = 0.000$). As a result, the finding supports the moderating hypothesis H11.

4. DISCUSSION

The findings of the study demonstrated that SysQual has an impact on e-government use, which is consistent with earlier studies (Ramayah et al., 2010; Peter & McLean, 2009; Mensah et al., 2018; Veeramootoo et al., 2018; Kaushik & Mishra, 2019). Moreover, SysQual affects internet trust, these results are consistent with earlier studies (Purian, 2012; Prabu, 2022;

Geebren & Jabbar, 2021; McKnight et al., 2017; Alzahrani et al., 2017). Higher levels of SysQual were positively connected with higher levels of user satisfaction, indicating that some technical features of the system (such as reaction time, simplicity of use, user needs, accessibility, and dependability) may affect users' propensity to trust content and services. When a user recognizes that the system offers him the services he requires, he is more likely to recognize its value and use EGov apps. Furthermore, SysQual is relevant to the idea of trust since current research shows that artifact aspects of information technology have an impact on the user's readiness to trust.

The study found that SerQual affected EGov use, which is in line with earlier studies (Colesca, 2009; Razak et al., 2018; Mensah & Mi, 2017; Sharma, 2015; Sachan et al., 2018). Whereas SerQual affects online trust, these results are consistent with those obtained by (Prabu, 2022; Geebren & Jabbar, 2021; McKnight et al., 2017; Alzahrani et al., 2017). High SerQual can increase citizens' desire to use EGov. One of the most important factors in determining whether an online business meets its objectives is the quality of electronic service provided. The level of service provided by EGov websites are critical, and it may be seen as a barrier to citizens' ability to utilize them. This conclusion suggests that SerQual is critical in facilitating the use of EGov. This suggests that citizens will continue to utilize EGov if they believe the quality of the applications is satisfactory. SerQual is an excellent mechanism for rebuilding and building trust in EGov, as well as improving the pace of demand for its services.

The results also showed that InfQual affects EGov use, this finding is consistent with that of (Cheng, 2014; Xiao et al., 2010; Wang et al., 2010). The results further reveal that InfQual affects online trust, the findings are in alignment with (Kim et al., 2008; Weerakkody et al., 2016; Khan et al., 2021; Nulhusna et al., 2017; Lee & Min, 2021; Alzahrani et al., 2017; Kala et al., 2024). If the information supplied on the EGov website is correct, authentic, up-to-date, and error-free, citizens will use it to complete their responsibilities. If citizens are satisfied with the quality of the information provided on the EGov website, this will have a beneficial impact on the users' intentions. These findings indicate that citizens favor government websites that provide more information than the bare minimum. Furthermore, people's perceptions of InfQual may influence their level of involvement and, as a result, their willingness to utilize EGov services in the future. Furthermore, it is believed that improving the quality of information will have a favorable impact on trust. Quality can influence trust and distrust of beliefs because individuals make trust-related assumptions relying on what they know. Furthermore, the integrity of content on a website is expected to influence a person's trust in the system. People's trust levels are likely to diminish when they consider the information provided insufficient.

The empirical results show that online trust had an impact on EGov use, these findings are also consistent with (Beldad et al., 2012; Bélanger & Carter, 2008; Abu-Shanab, 2014). One of the main variables and powerful structures that drive the adoption and use of EGov is trust in technology. Trust lowers risk perceptions, which increases the desire to use EGov. Citizens are worried about the protection of their personal information, such as credit card details, and a lack of confidence may prohibit them from engaging in a wide range of online activities. Citizens who believe their government is developing digital services to improve the speed, accuracy, and equality of key services are much more likely to believe the government is taking enough protective measures.

This study found that online trust mediates the association between EGov effectiveness (SysQual, InfQual, and SerQual) and EGov use. The results are similar to the findings of (Nulhusna et al., 2017; Khan et al., 2021; McKnight et al., 2017). Online trust helps to

increase the desire to use EGov because one of the characteristics that can reduce risks and be an effective and quick way to encourage individuals to conduct government transactions via the Internet regularly is trust. The effectiveness of EGov had a role in enhancing citizens' trust, which boosted citizens' intent to use EGov, according to our research. This suggests the success of EGov improves customer online trust and boosts citizens' willingness to perform government. Transactions online by enhancing credibility and reducing some of the dangers associated with EGov. The findings revealed that citizen trust is closely related to the use of EGov. That is to say, to ensure the long-term viability of EGov, trust must be considered as a critical component. Trust is defined as a user's belief in government-provided e-services and is linked to goodwill, honesty, integrity, and expertise, all of which are important in the context of online transactions.

In addition, it was found that habit moderates the relationship between trust and EGov use. These findings corroborate previous research (Chiu et al., 2012; Hsua et al., 2015; Casalo et al., 2010). The use of EGov services are based on the trust-habit tradeoff. In other words, the habit may diminish the impact of trust on people's intent to utilize EGov by eliminating their impression of ambiguity. When the habit is weak, however, trust will win out over frequent usage of EGov.

5. IMPLICATION FOR PRACTICE AND THEORY

Although the relevance of online services and, in particular, EGov has increased since the COVID-19 pandemic when face-to-face involvement became highly limited and probably unattainable, EGov technologies have become increasingly crucial. As a result, EGov services have become a necessity for everyone. The use of EGov, however, is still insufficient.

Citizens' usage of EGov services in Jordan is determined by the quality of systems, information, and activities, as well as people's trust in the Internet, according to the study's findings. The following are some of the study's practical consequences:

- For government agencies, the effectiveness of EGov should be a top focus (SysQual, InfQual, and SerQual). This contributes to increased citizen online trust in the government and its e-services, which might lead to increased satisfaction. How e-effectiveness of governments can be improved? By assuring that the material on the site is up-to-date, that the information is well-organized and very simple to use, and by forming a qualified citizen support team to respond to any problems quickly and effectively. Appoint personnel who are aware of the types of issues citizens face when using government e-services, ensure transaction security, and protect personal info by developing adequate protection frameworks, when using government online services. Decision-makers and government servants can work to increase citizens' trust in e-government by enacting strong policies and developing a strategy that allows citizens to use e-government facilities without fear by enacting policies and developing a strategy that increases citizens' trust in its e-services. In general, to efficiently implement e-government services, the government must first understand citizen expectations before taking the necessary steps.

- Government investment in EGov and technology enhancements can help citizens use EGov more. Government spending will be cost-effective if it bridges the digital divide and protects citizens' equality through the usage of EGov. Citizens must comprehend the financial advantages of utilizing EGov to communicate with their governments, which is achieved through effective communication and marketing, an improved understanding of EGov services, and citizen motivation to use them.

- Government agencies should aim to cultivate habits of dealing with government websites once trust in the Internet has reached a sufficient level. In other words, government organizations should aim to persuade citizens to visit their websites automatically whenever they need to interact with government websites because habit now has a greater impact on the desire to use EGov regularly than trust. This suggests that if EGov websites deliver the most value to citizens, they will enhance citizen satisfaction and hence have a favorable effect on citizens' EGov service habits.

6. LIMITATIONS AND FUTURE RESEARCH

Because this study was carried out in Jordan, the model that was employed can be used in other poor nations. One restriction is that the empirical data was only collected from users of social media applications, which may result in sample bias because respondents who use social media have greater opportunities to engage in online surveys, limiting the generalizability of the results. As a result, when compared to users with less Internet expertise or non-internet users, respondents' propensity to accept and use EGov services may be higher.

As a result, future studies should incorporate the adoption and actual usage of both offline participants and less regular Users online, and match them to more frequent online users, to acquire more trustworthy results. Other sampling methods, such as cluster sampling or snowball deployment, can also be utilized.

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