

Behavioral Acceptance of Electronic Government in Jordan

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ABSTRACT

Due to the development of communication and information technology, all organizations employ electronic communication to reach their customers and users, especially in developed nations where governments use e-government to support their residents with needed services. In Jordan, the use of e-government services is not as well adopted as in developed nations, because some Jordanians do not trust e-government services due to many reasons, which are discussed in this research; therefore, this study's goal is to determine dimensions that affect people's intentions to use e-government and its effect on e-government actual use in Jordan. The study looks into the factors that impact individuals' intentions and actual e-government usage, including attitudes toward behavior, credibility, and subjective norms that are derived from perceived usefulness, ease of use, awareness, trust in the government, incentives, trust in service delivery, transactional security, and social influence. A total of 352 online questionnaires were gathered, the majority of which were completed by college students who are between the ages of 18 and 29. The findings indicate that perceived ease of use, incentives, and perceived usefulness influence attitudes toward behavior, while awareness does not affect attitudes toward behavior. Trust in service delivery, transactional security, and trust in government affect credibility. Social influences affect subjective norms. Attitudes toward behavior and subjective norms affect intention to use, using intention affects actual usage, while credibility does not affect using intention. Finally, the results are helpful to Jordanian organizations including the Jordanian government. Recommendations are provided in the last section.

KEYWORDS

Attitudes, Behavioral Acceptance, Credibility, Customers' Intention to Use, E-Government, Subjective Norms

INTRODUCTION

Providing the best services to citizens is the government's priority. Governments aim to improve ongoing communication with people, particularly those residing in remote or sparsely populated areas (Ottoum & Suleiman, 2011). Because of the fast evolution of information and communication technology (ICT), governments have induced a step forward to adopt new ideas and technologies

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to provide citizens with services through e-government (M. Alomari et al., 2012), so e-government utilizes ICT systems and tools to enhance public services (Giri & Shakya, 2019). Government websites are information sites that allow all users to access needed information (Khalid et al., 2021; Tsui, 2019).

Moreover, e-government intermediates the correlation between governance and citizens' trust (Jameel et al., 2019). Users' confidence in e-government services affects users' intention to employ services and increases the acceptance of e-government services (Muttaqin & Susanto, 2019). Information security, integrity, confidentiality, data availability, and privacy are important for e-government services usage (Novianto, 2020). E-government adoption is based on system quality, self-efficacy, and perceived accessibility to e-government services (Yulianto et al., 2021). Computer self-efficacy, quality of information, compatibility, service quality, system quality, and innovativeness influence the intention to adopt e-government services (Kilani, 2021). The millennial generation believes that software quality, security, risk perceptions, and e-government services trust affect public intentions to use e-government (Assegaff et al., 2021). Engagement in social media tools and e-government information affects the tourists' intention and attraction to tourist places (Sitthipon et al., 2022).

The Jordanian government has adopted e-government services bearing in mind their usefulness and benefits (Ottoum & Suleiman, 2011). The government is investing in digital technology to improve information quality, enhance connections with citizens and increase citizens' engagement (S. Sharma, Kar, et al., 2022). But the Jordanian government lacks experience in this field, therefore, it implements western models and strategies of e-government, though it considers cultural differences between Jordan and Western countries when implementing e-government (Rehman et al., 2012). Until now, the project of e-government in Jordan has not reached the desired level of service (AL-Rababah & Abu-Shanab, 2010). Only 31.2% of Jordanian people use electronic government, while 68.8% do not use it because they are unaware of its benefits (Al-Soud et al., 2014). Most of the previous studies concluded that quality of information, accessibility, transparency, satisfying user, usefulness, efficiency, trust, quality of service, and ease of use are considered the main dimensions that affect the adoption and usage of e-government services (Singh et al., 2020). Moreover, gender differences affect behaviors, attitudes, and social media communication which enhance engagement (Stone & Can, 2021). Furthermore, factors affect e-government service use such as infrastructure, security, privacy, ease of use, cost of access, reliability, accountability, and governance policies (S. Sharma, Mir, et al., 2022). Perceived risk, effort expectancy, facilitating conditions, social influence, performance expectancy, perceived quality of service, and trust in digital technology affect the attitude to use e-government in Jordan (AlHadid et al., 2022). Social media tools facilitate information sharing which increases customer engagement and satisfaction and affects individual decision-making (Grover et al., 2022).

As stated above, many research papers have tested the e-government behavioral acceptance from different viewpoints, every study considered different factors which may affect users' intentions and behaviors. In Jordan, e-government studies have focused on specific e-government topics like user adoption and acceptance, this indicates that there is a need for research investigating recent topics such as citizen avoidance and resistance, privacy and security, continuous-use intention, and post-adoption (Alzyadat & Alarabiat, 2022). Therefore, this research is dedicated to investigating the influence of selected variables (ease of use, incentives, perceived usefulness, awareness, trust in service delivery, trust in government, transactional security, social influence, etc.) on attitude, credibility, and subjective norms that impact the intention to use and actual use of e-government, which have been not studied before as collective factors together. Hence, the research paper is aimed at investigating the dimensions that impact the residents' behavioral acceptance of e-government and answering the upcoming study questions:

1. What are the main dimensions that influence the citizen's behavioral e-government acceptance?
2. What are the dimensions that affect attitude levels towards using e-government?
3. What are the dimensions that impact credibility levels toward e-government usage?
4. What are the dimensions that impact subjective norm levels towards using e-government?
5. To what extent does the usage intention influence the actual e-government usage?

LITERATURE REVIEW

The citizen is the focal point of e-government services (Alryalat et al., 2017). All countries started developing their services online to improve the services provided to people (Alrawabdeh, 2017), and they use interactive technology to enhance interactions with people to increase the transparency, efficiency, and accountability of governmental services (Zhao et al., 2012). The majority of emerging nations want to have updated e-government levels, which improves public direction by making various government services more convenient, effective, and accessible for both governments and individuals. The effectiveness of these programs depends on both the capability of the government and the people's willingness to employ those government services (Rabaai, 2015). One of the most important elements affecting how well individuals utilize e-government is the quality of offered services, which includes high-quality information that influences perceived ease of use, service quality, awareness, and transactional security, especially when individuals disclose their personal information, security is one of the most crucial considerations that they consider (Rehman et al., 2012).

The Jordanian government concentrates on integrating information and communication technology into public institutions to reduce bureaucracy and improve services provided to users (Alqudah & Muradkhanli, 2021). In Jordan, the use of e-government services as an information system encourages the Jordanian government to use it as a government strategy to provide government services to people as well as to increase coordination between private and public sectors (Fayes & Ghabban., 2020). Jordan's government believes that e-government positively affects the correlation between development programs and service efficiency (Nawafleh, 2022). However, in Jordan the project of e-government does not attain the desired level of service and use (AL-Rababah & Abu-Shanab, 2010), this is due to many reasons such as most Jordanians are not currently using or willing to implement e-government services (Al-Soud et al., 2014), only 31.2% of Jordanian people use electronic government (Al-Soud et al., 2014). Moreover, e-government services face several challenges, including organizational, political, social, and technological ones (Al-Shboul et al., 2014). Therefore, the government of Jordan must play a part in raising public awareness related to the benefits that e-government provides to achieve the necessary levels of citizen participation (Al-Soud et al., 2014).

Anyway, different factors impact the attitude toward e-government services usage in Jordan (AlHadid et al., 2022). Quality of information, perceived ease of use, and quality of the system influence the e-government acceptance by employees of the municipality in Jordan (Shibly & Tadros, 2010). Technological, organizational, and external factors affect the usage of e-government application levels in organizations registered in the Amman Stock Exchange (AL-ZU'BI, 2012). Moreover, relative advantage, ease of use, information technology, access to the internet, government structure, regulatory issues, efficiency, trust, quality of service, and top management commitment affect e-government service adoption. Top management commitment has the lowest effect because there is not enough support from the management for e-government implementation (Alrawabdeh, 2017). Finally, in Jordan, there is a need to investigate recent topics such as citizens' avoidance and resistance, privacy and security, continuous-use intention, and post-adoption (Alzyadat & Alarabiat, 2022).

THEORETICAL FRAMEWORK AND PROBLEM STATEMENT

There are a large number of theories trying to explain e-government adoption. All of them are about information systems and information technology applications, but none of them is appropriate to measure the adoption of e-government (Rana et al., 2011). The researches on the theoretical development of e-government adoption are limited. Generic information and technology applications were used to investigate the adoption of e-government services such as the diffusion of innovation (DOI), technology acceptance model (TAM), theory of planned behavior (TPB), and unified theory of acceptance and use of technology (UTAUT). These models are not specific to investigating e-government adoption (Rana et al., 2012). Some authors applied social cognitive theory (SCT)

to explain dimensions that influence the intention of e-government service adoption such as social influence, anxiety, self-efficacy, and outcome expectation. While others tried to extend the social cognitive theory, which showed that there is a correlation between dimensions, and concluded that improving government effectiveness, system quality, and social level influence e-government adoption. A transparent and corruption-free society increases positive feelings toward system adoption, also social innovation affects adoption (Rana & Dwivedi, 2015). Then the online public grievance redressal system (OPGRS) was developed based and integrated with an information system success model to measure the intention of e-government usage and user satisfaction of the citizens. This study showed that access to e-government systems is based on information quality, system quality, system usefulness, perceived ease of use, service quality, perceived risk, perceived satisfaction, and citizens' awareness affect behavioral intention and satisfaction. (Rana et al., 2015). Moreover, some researchers stated that the usage of e-government applications is still a dilemma for both developing and developed nations. They used the technology acceptance model (TAM), the theory of planned behavior (TPB), and the unified theory of acceptance and use of technology (UTAUT), or combinations to explain the usage of e-government services. E-government adoption is influenced by individuals' characteristics. Attitude is mediating the impact of (performance expectancy, social influence, and effort expectancy) on citizens' behavioral intention. (Rana et al., 2017). A variety of technology adoption models are utilized to investigate e-government adoption, nine well-known IT adoption models (e.g. the TAM, the TRA, the DTPB, the DOI, the TPB, etc.) with 29 constructs have been used. OPCRS model for analysis shows that these models are not specific to e-government, which include risk, trust, privacy, and security, they make policymakers indifferent to factors affecting behavioral intention. A unified model of e-government adoption (UMEGA) was developed based on TAM, the TPB, the DOI, and the UTAUT. The UMEGA includes many constructs of relative advantage, perceived usefulness, social factor, subjective norm, perceived ease of use, perceived risk, facilitating conditions, attitude, perceived behavioral control, and behavioral intention. Findings are indicating that there is a relationship among all constructs, excluding performance expectancy on citizens' behavioral intention, therefore the UMEGA model suggested moderating factor attitudes to mediate the impact of effort expectancy, social influence, and performance expectancy on citizens' behavioral intention. Using attitudes as a mediator increases the model explanation power. Also, the UMEGA model suggested using anxiety, self-efficacy, privacy, and security, these are specific to e-government. The suggested unified model was better than all previously proposed theoretical models in explaining factors affecting behavioral intention (Dwivedi et al., 2017). Another author stated that there is a shortage of theories related to e-government acceptance. The author used different factors related to e-government use: security, electronic participation, transparency, engagement, communication/interaction, collaboration, democracy, open data practices, and trust (Alryalat et al., 2017). This Unified Theory of Acceptance and Use of Technology (UTAUT) model extension includes two dimensions information quality and trust. Trust and performance expectancy strongly affect the acceptance of the mobile application. key factors that affect the residents' behavioral intention to use mobile applications are effort expectancy, performance expectancy, facilitating conditions, information quality, and trust directly impact behavioral intention and the decision to use mobile applications, while the social influence has no impact on behavioral intention, which means the people in Oman are not affected by the opinions of other people when using mobile applications. User-friendly technology and ease to use enhance the behavioral intention of users over time (S. K. Sharma et al., 2018). Another author used acculturation and enculturation to impact online participation and involvement and voting intentions. Political involvement acts as mediating the correlation between both enculturation and acculturation with voting intentions. Political involvement mediating the effect of online participation on voting intentions. Both acculturated and enculturated participants are related to online activities aiming at political participation. Both offline political involvement and online political participation influence voting intentions (Jamal et al., 2019). "Acculturation is the process of the adaptation of an individual to the mainstream culture, while enculturation is the process of adaptation to the ethnic culture"

(Knight et al., 2009). Finally, developing countries are allocating significant budgets to e-government projects. E-government initiatives' goal is to improve easy use and interaction between government and citizens to enhance access to e-government services. But still, there are several challenges to using e-government services. Lack of infrastructure, low digital literacy, lack of training to operate the system, language problems, problems of dormancy, transaction cost, and low awareness are the main challenges to e-government services adoption. Top management and government decision-makers, providers of public/private internet service, telecommunication companies, and other agencies should be involved to improve e-government services (Sharma et al., 2021).

Based on the discussion above, this paper is directed to test the impact of 13 factors (awareness, ease of use, incentives, perceived usefulness, transactional security, trust in government, social influence, attitude toward behavior, credibility, subjective norms, using intentions, and actual use) on e-government citizens' behavioral acceptance.

HYPOTHESES DEVELOPMENT

Attitude Towards Behavior and Intention to Use E-Government Services

Many theories in use mention that people's intention for using e-government is strongly influenced by attitude (Alomari et al., 2014). Perceived usefulness is the key factor affecting citizens' intention to keep utilizing e-government services (Tsui, 2019). Awareness associated with a positive attitude is an important condition for developing an effective implementation (Abdelsadeq et al., 2014). The ease of use has a stronger effect on how often residents use e-government (Colesca & Dobrica, 2018). Awareness, perceived usefulness, incentives, and perceived ease of use affect attitudes related to behavior intention to use e-government services (Khan, Rahim, et al., 2018a; ZHAO & LIU, 2018). The systems quality, quality of service, and information quality affect the ease of use of e-government services (Cho et al., 2019). There is a significant correlation between information awareness, service usefulness, and users' satisfaction with e-government services usage. Information awareness is the most critical factor that affects users' satisfaction (Abudaqa et al., 2019). Information transparency, efficiency, and timely services affect knowledge sharing and technology skills to adopt e-government services. Also, culture, regulation, quality of e-government of services, and awareness affect the citizens' e-government adoption (Van et al., 2019).

Moreover, usefulness and perceived ease of use impact citizens' behavioral intention to e-government services usage (Chen & Aklikokou, 2020). Perceived usefulness, perceived risk, computer self-efficacy, and peer influences are key dimensions that impact the intention of non-user to e-government services usage (Rallis et al., 2019). Performance expectancy and privacy influence citizens' intention to use and adopt e-government services (Jacob & Darmawan, 2019). Computer self-efficacy and perceived usefulness influence users' intention to adopt e-government services (Arfat et al., 2018). Perceived ease of use, computer self-efficacy, perceived usefulness, and trust impact customers' intention to adopt e-services (Puthur et al., 2020). The quality of the systems and information quality of government websites affect satisfaction and adoption of e-government virtual services (Khalid et al., 2021). Structural assurances, security, privacy, information quality, and ease of use are affecting trust and decision-making to increase' participation (Khan et al., 2021). The main motivators and incentives to adopt e-government include the information exchange efficiency with the outside environment and managing inside relationships of IT (Madinis & Sidiropoulou, 2020). The government needs awareness campaigns to enhance trust and government website usage (Yağanoğlu & Serim, 2020). Perceived ease of use creates positive attitudes and enhances behaviors and intentions toward e-government usage (Ali & Anwar, 2021). Information awareness, quality of service, service usefulness, and service ease of use affect trust online and users' satisfaction with e-government services usage (Alneyadi et al., 2022). Perceived usefulness, as well as perceived ease of use, affect behavioral intention to adopt e-government services (Chen & Aklikokou, 2020).

Based on the discussion above, many factors influence attitude toward behavior, which in turn affect e-government services using intentions. This research considers coming factors: Perceived usefulness, perceived ease of use, awareness, and incentives as a part of attitude towards behavior, which affects the intention to adopt e-government as well as actual usage. Therefore, the next hypotheses have been proposed:

- H1:** Ease of use, perceived usefulness, awareness, and incentives have a significant impact on citizens' attitudes toward using e-government services.
- H2:** Citizens' attitude toward behavior has a significant positive impact on the citizens' intention to use e-government.

Credibility (Trust) and Intention to Use E-Government Services

Credibility and trust are interchangeable. Credibility is the main determinant that affects technology adoption (Amin et al., 2012; Weerakkody et al., 2011). If a citizen used the website regularly without any crashes he/she will find the website credible (Holzer & Manoharan, 2011). Credibility refers to the protection of all kinds of data against illegal issues (Rabaa'i, 2017). Credibility covers the security of e-government services, which includes information protection of individual privacy, and assure security (Jama & Ibrahim, 2017). Privacy is related to managing transactions of personal information, whereas security is related to internet technology protection during e-government service use from misuse, losing data, and attacks (Ghimire, 2018). E-government contains sensitive information about people, businesses, and other institutions that are targeted by cyber attackers (Elisa et al., 2019). Accessibility, web security, and usability are sensitive for the e-government websites development (Elisa, 2017). Data security is a very important factor for individuals and organizations (Giri & Shakya, 2019). The users' trust is the main concern for e-government services usage (Khan, Nor, et al., 2018). Trusting e-government is considered the key factor that affects the behavioral intention of users (ZHAO & LIU, 2018). Trust is the most important dimension of e-government services usage (Khan, Rahim, et al., 2018a). Trust in governmental information and social platform competencies are the key factors of intention to adopt e-services (Park & Lee, 2018). Quality of system, quality of service, quality of information, perceived benefits, and trust are the most important dimensions for e-government adoption (Pappas et al., 2018). The availability of e-government services and trust in the government motivate inhabitants to engage in e-voting (Polushin et al., 2018). Usefulness and ease of use impact trust, which influences individuals' intention for e-government services usage (Khan, Rahim, et al., 2018b).

Trust in services, trust in government, and technology trust boost the engagement, usage, and adoption of e-government services (AlAwadhi, 2019). There is a significant correlation between system quality, operational effectiveness, quality of service, and information quality with trust in online services, which then influences the users' satisfaction related to e-government service (Santa et al., 2019; Tegethoff & Santa, 2019). Attitude and trust are the most important factors for the users' intention to e-government services usage (Burhanudddin et al., 2019). E-government intermediates the relationship between government public trust and good governance (Jameel et al., 2019). Citizens' trust in e-government services and citizens' intention to use services increase the acceptance of e-government services (Muttaqin & Susanto, 2019). Risk, security, lack of privacy, trust, and optimism bias impact citizens' usage behavior and utilization of e-government systems (Munyoka & Maharaj, 2019). Quality of e-government services, risk factors, perceived ease of use, and reliability affect trust and the continual use intention and satisfaction with e-government services (Cho et al., 2019). The customer's perceived risk is negatively affecting the e-government, while customer trust is positively affecting the e-government (Nanang et al., 2019). Quality of the Website, familiarity, perceived risk, security, computer self-efficacy, and computer anxiety are the key determinants of the intention to adopt e-government services (Iyer, 2020). The information system quality, local-familiar applications,

and consistent systems create trust in e-government websites (Ella, 2020). The perception regarding the technology and quality of information is the main factor for e-government trust (Capistrano, 2020). The perception of e-security affects e-government system usage (Yağanoğlu & Serim, 2020). The government uses e-government and social media as a method for enhancing the citizens' trust in the government (Banghui et al., 2020). The high adoption of e-government did not protect citizens (Thompson et al., 2020). Digital government laws and policies increase trust and reduce bureaucracy and formality (Carvalho, 2020). Site quality, information, user-friendly, content, perceived ease of use, computer self-efficacy, and perceived usefulness affect trust, which influences the intention to e-government adoption (Puthur et al., 2020). IT technology and e-government influence public trust, public service quality, citizens' attitudes, and e-government adoption (Nawafleh, 2020). Structural assurances, information quality, security, ease of use, and privacy are affecting trust, intention to use government, and decision-making to increase' participation (Khan et al., 2021).

E-government accuracy and consistency affect trust (Martati & Suminto, 2021). Technical and governmental factors positively affect people's trust level in e-government services (Alkateeb & Abdalla, 2021). Trust in e-government services, software quality, security, and risk perceptions affect the users' intention to use and users' behavior (Assegaff et al., 2021). Internet access, trust in government, trust in the Internet, and Internet skills influence the intention of e-government services usage (Dilhani & Priyashantha, 2021). E-government satisfaction, experience, and public trust are strongly related to each other (Dmour, 2021). Website quality and responsiveness positively influence trust and trust influences citizens' intention to use the e-government service (Suryono, 2021). Trust in the internet, perceived risk, and government services' trust impact citizens' use of e-government (Li, 2021). Security, quality assurance, confidence, and trust influence citizens' intention to use e-government services and the citizen's satisfaction (Alsultanny, 2022). Trust in the internet, service quality, information quality, trust in government, perceived benefits, and post-use of government e-services influence the e-government online services usage (Ardi & Indra, 2022). E-trust and e-service quality strongly influence citizens' satisfaction and loyalty (Rachmawati & Syafarudin, 2022). Personal factors, reliability, and trust impact the usage of e-government (Rachmawati et al., 2022). Information awareness, quality of service, service usefulness, and service ease of use impact trust in online and e-government services usage and satisfaction (Alneyadi et al., 2022). Moreover, government service delivery through e-governance and citizens' awareness affect users' trust, which affects e-government service usage (Chandrashekar, 2018). E-government strategies accelerate and enhance public service delivery performance (Riany et al., 2018). E-government service delivery affects e-government adoption (Budding et al., 2018). Perceived service delivery act as a mediator for the correlation between the satisfaction of citizens and e-government (Mishra & Geleta, 2019). E-government adoption faces several challenges such as infrastructural deficiency, security, and data privacy (Lawan et al., 2020). Finally, in public administration, trustworthiness is key for electronic government, which affects both governments and citizens and was given inappropriate attention. Factors influencing citizens' perceptions of trust in e-government are still under-searched. Nineteen factors are related to trust in e-government: integrity, benevolence, trust in technology, transparency, trust in government, responsiveness, accountability, competence, risk, security, privacy, system quality, service quality, political attitude, satisfaction, prior knowledge, ability to use, and the tendency to trust and use (Janssen et al., 2018).

Based on the above discussion, many factors influence credibility (trust), which affects the e-government services using intention. This research studies the influence of the following dimensions (trust in government, transactional security, trust in service delivery) on credibility, which impacts the intention of e-government services usage. Therefore, the next hypotheses have been developed:

H3: Trust in government, trust in service delivery, and transactional security have a significant impact on credibility towards using e-government.

H4: Credibility has a significant impact on the citizens' intention to use e-government.

Subjective Norms (Social Influence) and Intention to Use E-Government Services

According to the theory of reasoned action, subjective norms are related to individual perception of social pressures (Ajzen & Fishbein, 1980), while the theory of planned behavior stated that social factors including subjective norms affect attitudes and behavior (AJZEN, 1991). Moreover, the Fishbein behavioral intentions theory said that behavioral intention includes two factors: social and personal influences (Miniard & Cohen, 1979). The environmental factors that affect behavioral intention are social influence and subjective norms (Samah, 2018). Subjective norms and social influence are closely related and influence their inclination to utilize e-government (Hofstede & Minkov, 2010). Social influence is directly related to subjective norms (Mansour, 2012). In public service organizations, the managers accept changes based on perceived subjective norms, not social influence (Samah, 2018). Social interactions are related to people's attitudes toward self-behavior, while subjective norms and attitudes are related to behavioral intention (Arpaci, 2020). Social networking affects subjective norms in knowledge sharing (Harjanti, 2005). Social networking (social pressure) and subjective norms (individual evaluation) affect attitudes toward online use (Lin et al., 2012). Both social norms and subjective norms influence consumers' behavioral intentions related to consuming environmental-friendly food (Emberger-Klein et al., 2021).

Nowadays, technologies allow government officers to communicate with people through different social media channels to provide them with services and influence their attitudes toward using e-government (Nam, 2012). Many other factors influence people's intention to adopt e-government, for example, political trust, social influence, and performance expectancy, which strongly impact the intention of e-government services usage (Mensah & Adams, 2019). Social influence, facilitating conditions, perceived quality of service, and trust in the government impact the students' intention to adopt e-government services (Mensah, 2019). There is a relationship between the relative advantage of e-government, social influence, and perceived usefulness (Mutuku, 2019). Website quality, security, perceived usefulness, and social influence affect people's intention for e-government services usage (Aljazzaf, 2019). Performance expectancy, perceived risk, attitude, facilitating conditions, effort expectancy, and social influence affect peoples' intention of e-government services usage (Avazov & Lee, 2020). Social influence, performance expectancy, facilitating conditions, and effort expectancy are important factors of users' intention for e-government services usage (Afrizal & Wallang, 2021). Social influence, effort expectancy, performance expectancy, and facilitation conditions influence citizens' e-government adoption positively (Li, 2021). Favorable social attributes and trust affect the usage of e-government (Saengchai et al., 2020). Social influence, e-government awareness, and trust affect e-government services' usage intentions (Al-Swidi & Enazi, 2021). Trust in government, perceived service quality, as well as facilitating conditions affect the usage intention of e-government services, while effort expectation, performance expectation, and social influence do not affect users' attitudes toward e-government services (Mensah et al., 2020). E-government awareness, social influence, and trust affect the usage intentions of e-government services (Al-Swidi & Enazi, 2021). The most important factors of e-government services adoption include performance expectancy, facilitating conditions, and social influence, which affect e-government service users' intentions (Kamarudin et al., 2021). Perceived risk, facilitating conditions, perceived service quality, performance expectancy, social influence, effort expectancy, and trust in digital technology affect attitude to e-government usage in Jordan (AlHadid et al., 2022). The key factors: facilitating conditions, perceived risk, social influence, performance expectancy, perceived service quality, effort expectancy, and trust in digital technology affect the attitude toward e-government usage in Jordan (AlHadid et al., 2022). Individual reactions such as enjoyment, habit, and local culture affect the use of e-government. The social influence factors affect attitudes to using e-government. The public is concerned about security, risks, and system failure (Iqbal & GENIE, 2022).

As stated above, there is a debate about the correlation between social influence and subjective norms, any way in this study, social influence is considered a factor that affects subjective norms, which impacts both intention to use and actual use. Therefore, the next hypotheses are suggested:

H5: Social influence has a significant impact on subjective norms.

H6: Subjective norms have a significant impact on the citizens' intention to use e-government.

Finally, it is suggested that the intention to use e-government affects the actual use of e-government services.

H7: Citizens' intention to use e-government services has a significant impact on their actual use.

MATERIAL AND METHODS

A quantitative descriptive and cause-effect approach has been used in this research. Cross-sectional data were collected through the online survey for statistical further analysis (Babin & Zikmund, 2015). Nowadays, online surveys are the most wide tool utilized for gathering data. Surveys deliver effective, affordable, and precise data (Aaker et al., 2002; Neuman, 2003; Zikmund et al., 2010). A structured procedure of stages was used in the online survey's creation and design (Hair et al., 2010). The process of design and development includes logical actions (Hair et al., 2010) that directly affect how well the data is collected (Burns & Bush, 2003).

Study Tool: The survey consists of 47 questions and three items demographic items, including age, gender, and levels of education. Seven points Likert scale has been applied for measurements. Options ranged from 1 which is used for strongly disagree to 7 which is used for strongly agree with neutral which is 4. The study model consists of thirteen constructs. The questionnaire was developed based on previous studies: ease of use four items (Venkatesh & Davis, 2000), perceived usefulness four items (Venkatesh & Davis, 2000), awareness two items (Anwar et al., 2016; Kaisara & Pather, 2009), incentives three items (Khassawneh), trust in government four items (M. Alomari et al., 2012), trust in service delivery four items (Anwar et al., 2016), transactional security six items (Anwar et al., 2016), social influence two items (Venkatesh & Bala, 2008) attitude towards behavior four items (Lee et al., 2003), credibility four items (Yang, 2007), intention to use 3 items (Cheng et al., 2006; Jahangir & Begum, 2008), subjective norms, four items (Suki & Ramayah, 2010). While actual use, 2 items (Khassawneh).

Data Collection: To complete the survey, click on the survey link on Google Docs and submit it online. Nowadays, Online survey is widely used to collect data because it is efficient, easy to use, inexpensive, and accurate (Aaker et al., 2002; Burns & Bush, 2003; Neuman, 2003; Zikmund et al., 2010). It is a suitable approach for social science research (Neuman, 2003), particularly for collecting quantitative data for statistical analysis (Zikmund et al., 2013). Developing and designing an online survey is logical and well-organized (Hair, Sarstedt, et al., 2014) and also impacts the quality of collected data (Burns & Bush, 2003). Surveys were sent via Facebook, WhatsApp, SMS, and other tools for people who use social media, so the research uses a convenience sampling method. Out of 391 received responses, only 352 were suitable for further analysis. Most of them are college students and graduates, and their ages are between 18 and 29 years because researchers have contact with their students and graduates. The collected data was coded against SPSS and Smart PLS. 352 valid surveys were measured using SPSS and Smart PLS to measure the research hypothesis (Lyberg & Weisberg, 2016; Malhotra, 2016).

DATA ANALYSIS AND RESULTS

Demographic Analysis: Analysing preliminary data includes looking at sample profiles and demographic factors. The sample includes 60.2 male participants and 39.8 female respondents. Related to age, most participants are aged between 18 to 29 years old (57.4%), followed by 30-49 years 38.1%. It is noticed that very only limited participants aged between 50 to 64 years (4.5%).

Concerning the educational level, more than half of the respondents are college graduates, while around 18% of them have postgraduate degrees, followed by other categories who accounted for around a quarter of the sampled respondents.

Data Analysis (Using SEM-PLS): The structural equation modeling (SEM) approach is utilized to explain the connections between various variables (Hair, Hult, et al., 2014a). Partial Least Squares (PLS) is a multivariate analysis that overcomes multivariate linear regression constraints and estimates successive loading by subset and parameters (Fornell & Bookstein, 1982). It is utilized to analyze models with many constructs and indicators (Hair, Hult, et al., 2014b). Therefore, it differs from other methods because it is used to predict multiple predictors and provide accuracy (Hair, Sarstedt, et al., 2014).

Validity Test: The validity test included cross-loading and item loading. Items factors loading above or equal to 0.6 were retained, while items factors loading from 0.4 to 0.6 were assessed for their reliability and construct validity (Hair, Sarstedt, et al., 2014; Sharabati et al., 2022). Low item loadings i.e. less than 0.4 are discarded. The great majority of the goods were, therefore, higher than (0.6), and thus considered valid items. However, four items: SEC2, SEC4, SEC5, and SEC6 loaded low to their constructs: (0.1284), (0.1678), (0.0719), and (0.0544) respectively, and thus, were excluded from this research. Generally, out of 47 items, only 43 items were valid and implemented to test the constructs, see Table 1, which also includes excluded items.

Another metric for validity was construct validity. Construct validity determines a measure's capacity to measure what it is designed to measure (Gefen & Straub, 2005). Convergent validity refers to how closely a construct converges or correlates to other constructs of the same variable (Hair, Sarstedt, et al., 2014). Convergence validity is reached if the Average Variance Explained (AVE) value between the variables and sub-variables equals or is above 0.5 (Hair et al., 2014). Table 2 indicates that the AVE ratings for every construct in the model are higher than 0.5, indicating convergent validity. Examining the composite reliability of the constructs is a different strategy for assessing convergent validity (Fornell & Larcker, 1981). Table 2 demonstrates that every construct had appropriate composite reliability values that were higher than 0.70 (Hair et al., 2014).

Reliability Test: The dependability of a construct is examined using Cronbach's alpha. When alpha levels are higher than 0.70, construct dependability is attained (Field, 2005; Hair, Sarstedt, et al., 2014; Sharabati et al., 2019). Lower levels of test results shouldn't be evaluated further. After executing the second round, all results showed acceptable to high reliability, with alpha values surpassing the 0.70 limits, as shown in Table 2. Thus, dependability was shown for all constructions.

The amount of variation described by R^2 is used to explain the fitness of the model (Hair et al., 2011) as well as the dependent variables' capacity for prediction (Chin, 1998). (Hair, Sarstedt, et al., 2014) indicated the R^2 lowest value for every construct has to be above 10%. Table 2 results show that the value of R^2 for 'Actual usage' was found acceptable and equal to 37.5% and for 'Attitude towards behavior' was about 42%, whereas 'Credibility' and 'Intention to Use' scored relatively high values of 64.3% and 73.2%. Finally, 'Subjective norm' scored around 50%. Since all of the aforementioned R^2 values are higher than 0.10, it was acceptable to look at the importance of the routes connected to these variables.

Discriminant validity, a distinct validity test, looks at how much a variable genuinely differs from other factors in terms of the dependent variable prediction (Hair et al., 2010). Testing the constructs' relationship matrix is one common strategy. Particularly, the correlations with this construct have to be lower than the AVE score square root for every construct (Hair, Sarstedt, et al., 2014). No off-diagonal component of the study model surpassed the correlation coefficients below, according to the findings in Table 3, which show that all components had discriminant validity.

Hypotheses Test: Examining the routes, the model's predictive power, and bootstrapping random samples from the dataset to be used to assess the structural model (Hair, Sarstedt, et al., 2014). Examining the standard error, t-statistics, and significant level is done to achieve this (Chin, 1998). Table 4 summarizes the study's hypotheses and displays the path coefficients, t-values, and

Table 1. Items loadings and cross loading

	1	2	3	4	5	6	7	8	9	10	11	12	13
AC1	0.819												
AC2	0.902												
ATT1		0.840											
ATT2		0.911											
ATT3		0.867											
ATT4		0.842											
AW1			0.826										
AW2			0.764										
AW3			0.771										
EOU1				0.829									
EOU2				0.866									
EOU3				0.891									
EOU4				0.836									
INC1					0.868								
INC2					0.920								
INC3					0.866								
ITU1						0.903							
ITU2						0.916							
ITU3						0.908							
PC1							0.770						
PC2							0.846						
PC3							0.889						
PC4							0.893						
PU1								0.890					
PU2								0.931					
PU3								0.951					
PU4								0.908					
SEC1									0.883				
SEC2									0.128				
SEC3									0.807				
SEC4									0.168				
SEC5									0.072				
SEC6									0.054				
SI1										0.889			
SI2										0.923			
SN1											0.893		

continued on following page

Table 1.
 Continued

	1	2	3	4	5	6	7	8	9	10	11	12	13
SN2											0.928		
SN3											0.860		
SN4											0.895		
TG1												0.838	
TG2												0.875	
TG3												0.901	
TG4												0.871	
TS1													0.883
TS2													0.857
TS3													0.889
TS4													0.827

Table 2.
 Constructs validity and reliability

No.	Construct	AVE	Composite Reliability	R ²	Cronbach's alpha
1	Actual usage	0.742	0.851	0.375	0.758
2	Attitudes toward behavior	0.749	0.923	0.420	0.888
3	Awareness	0.620	0.830		0.720
4	Credibility	0.724	0.913	0.644	0.873
5	Ease of Use	0.732	0.916		0.878
6	Incentives	0.783	0.915		0.861
7	Intention to use	0.826	0.935	0.732	0.895
8	Security	0.723	0.839		0.623/0.734
9	Social Influences	0.821	0.902		0.784
10	Subjective norm	0.799	0.942	0.498	0.916
11	Trust in Government	0.760	0.927		0.894
12	Trust in service delivery	0.747	0.922		0.887
13	Usefulness	0.846	0.957		0.939

findings of the hypotheses, indicating whether they were supported or not. The estimates' stability is determined by the bootstrap t-Statistics, which are deemed satisfactory above 1.96 at a 0.95 confidence interval (Chin, 1998).

- H1:** Ease of use, perceived usefulness, awareness, and incentives factors have a significant impact on citizens' attitudes toward using e-government services.
- H2:** Citizens' attitude toward behavior has a significant positive impact on the citizens' intention to use e-government

Table 3.
Correlation among construct (discriminant validity)

No.	Construct	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Actual usage	0.861												
2	Attitudes toward behavior	0.285	0.865											
3	Awareness	0.356	0.424	0.788										
4	Credibility	0.313	0.662	0.583	0.851									
5	Ease of Use	0.373	0.518	0.521	0.622	0.856								
6	Incentives	0.361	0.565	0.589	0.608	0.406	0.885							
7	Intention to use	0.274	0.605	0.488	0.597	0.510	0.516	0.909						
8	Security	0.263	0.566	0.648	0.511	0.534	0.501	0.419	0.850					
9	Social Influences	0.297	0.471	0.574	0.632	0.491	0.525	0.556	0.611	0.906				
10	Subjective norm	0.363	0.653	0.603	0.540	0.511	0.739	0.537	0.627	0.706	0.894			
11	Trust in Government	0.397	0.452	0.615	0.515	0.547	0.569	0.503	0.664	0.624	0.594	0.872		
12	Trust in service delivery	0.333	0.605	0.621	0.699	0.517	0.506	0.622	0.650	0.615	0.427	0.610	0.864	
13	Usefulness	0.366	0.387	0.464	0.582	0.564	0.514	0.520	0.540	0.497	0.486	0.436	0.482	

Table 4 and Figure 1 show that ease of use, incentives, and perceived usefulness significantly affect attitudes toward behavior, while awareness has a significant effect on attitudes toward behavior, and attitudes toward behavior affect intention to use e-government services.

H3: Trust in government, trust in service delivery, and transactional security have a significant impact on credibility towards using e-government.

H4: Credibility has a significant impact on the citizens' intention to use e-government.

Table 4 and Figure 1 show that trusts in government, trust in service delivery, and transactional security have a significant effect on attitudes toward behavior, while credibility has an insignificant effect on the intention to use e-government services.

H5: Social influence has a significant impact on subjective norms.

H6: Subjective norms have a significant impact on the citizens' intention to use e-government.

Table 4 and Figure 1 show social influence has a significant effect on subjective norms, and subjective norms affect the intention to use e-government services.

H7: Citizens' intention to use E-government services has a significant impact on their actual use.

Finally, Table 4 and Figure 1 show the intention for e-government usage significantly affects the actual use of e-government services.

DISCUSSION

The following section discusses the analysis results and their relationship with the previous study's results showing that ease of use, perceived usefulness, and incentives have a positive significant effect on citizens' attitudes toward behavior, while awareness did not have any significant effect on attitudes toward behavior, attitudes toward behavior affect e-government services using intention. These results

Figure 1.
 Research model result

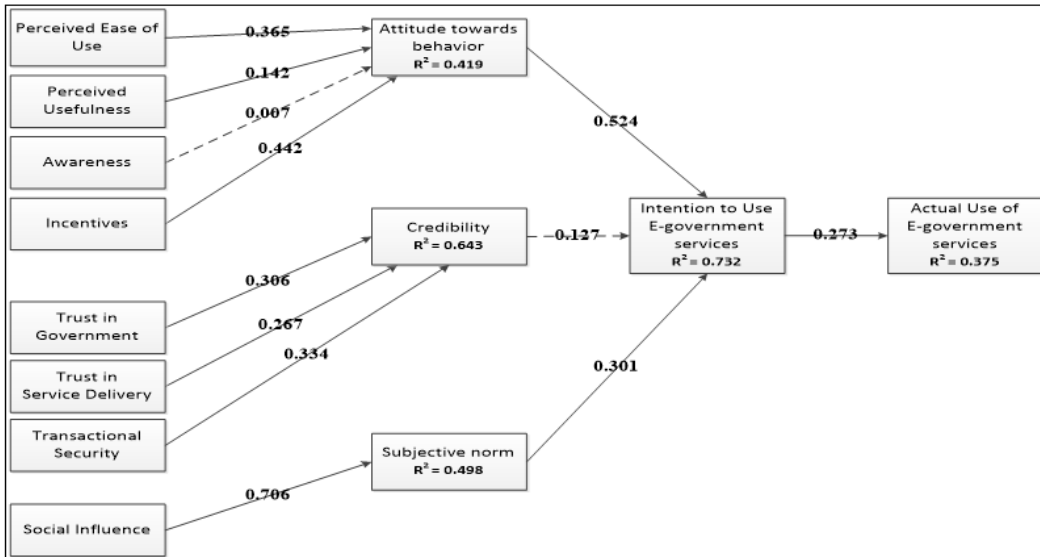


Table 4.
 Paths analysis and hypotheses results

	Path	Path Coefficient (Beta Value)	t Value	Sig	Result
H1	Ease of Use → Attitudes toward Behavior	0.366	3.724	0.000	Supported
	Perceived Usefulness → Attitudes toward Behavior	0.143	2.484	0.013	Supported
	Awareness → Attitudes toward Behavior	0.008	0.075	0.940	Not supported
	Incentives → Attitudes toward Behavior	0.443	5.230	0.000	Supported
H3	Trust in Government → Credibility	0.306	4.141	0.000	Supported
	Trust in service delivery → Credibility	0.267	2.960	0.003	Supported
	Transactional Security → Credibility	0.334	4.656	0.000	Supported
H5	Social Influences → Subjective Norm	0.706	13.731	0.000	Supported
H2	Attitudes toward behavior → Intention to Use	0.524	7.222	0.000	Supported
H4	Credibility → Intention to Use	0.127	1.811	0.072	Not supported
H6	Subjective Norm → Intention to Use	0.301	3.262	0.001	Supported
H7	Intention to use → Actual Usage	0.274	3.932	0.000	Supported

are matching with previous studies' results except that related to awareness, which states that awareness does not affect attitudes toward behavior. Previous studies concluded that all four factors affect attitudes toward behavior, which in turn affect intention to use, such as Awareness is associated with a positive attitude (Abdelsadeq et al., 2014). Citizens' awareness affects users' trust (Chandrashekar, 2018). The ease of use influences e-government use (Colesca & Dobrica, 2018). Perceived ease of use, awareness, perceived usefulness, and incentives affect attitudes toward behavioral intention as

well as e-government services adoption (Zhao & Liu, 2018). Perceived ease of use and perceived usefulness affect trust and social media usage intention for e-government services (Khan, Rahim, et al., 2018b). The perceived ease of use affects e-government services usage (Cho et al., 2019). Information awareness, service usefulness, and users' satisfaction with e-government services usage are strongly related to each other (Abudaqa et al., 2019). Awareness affects the users' e-government adoption (Van et al., 2019). Perceived usefulness, as well as perceived ease of use, affect behavioral intention to apply e-government services (Chen & Aklikokou, 2020). E-service perceived usefulness, trust, and perceived ease of use affect customers' intention to e-ticket booking sites reuse (Puthur et al., 2020). Ease of use is affecting trust and decision-making to increase' participation (Khan et al., 2021). The government needs awareness campaigns to enhance trust and government websites (Yağanoğlu & Serim, 2020). E-government awareness and trust affect intentions to e-government services usage (Al-Swidi & Enazi, 2021). Perceived ease of use creates favorable attitudes and enhances intentional behavior toward e-government usage (Ali & Anwar, 2021). Information awareness, service ease of use, and service usefulness influence online trust and citizen satisfaction to use e-government services (Alneyadi et al., 2022). Regarding the effect of awareness on attitudes toward behavior, it seems to be in Jordan, the government does not support e-government to reach the required level of awareness (AL-Rababah & Abu-Shanab, 2010). The Jordanian government lacks experience in this field (Rehman et al., 2012). There is not enough support from the public administration for e-government implementation (Alrawabdeh, 2017). Therefore, the government should develop special campaigns to aware people of the benefits of using e-government.

Results indicate that trust in government, transactional security, and trust in service delivery strongly and significantly affect attitudes toward behavior, credibility does not affect e-government services using intention. These results are going online with previous studies' results about the effect of the three factors on attitudes toward behavior, except credibility does not affect e-government services using intention such as credibility is the main determinant that affects technology adoption (AMIN et al., 2012; Holzer & Manoharan, 2011; Weerakkody et al., 2011). Accessibility, web security, and usability are sensitive for the e-government websites development (Elisa, 2017). Trust in e-government is the key factor that affects the behavioral intention of citizens (Zhao & Liu, 2018) and willingness to apply the application (Park & Lee, 2018). Trust is very important for encouraging users toward e-government services usage (Khan, Rahim, et al., 2018a). E-government strategies accelerate and enhance the public service delivery performance of the Kenyan e-Government (Riany et al., 2018). E-government service delivery impacts the adoption of e-government in the Netherlands (Budding et al., 2018). Perceived service delivery intermediates the correlation between people's satisfaction and e-government (Mishra & Geleta, 2019). Trust in e-government, trust in technology, and trust in government affect the engagement, usage, and adoption of e-government services (AlAwadhi, 2019). Data security is the most important factor for individuals and organizations (Giri & Shakya, 2019). E-government services trust and the users' intention for services enhance e-government services adoption (Muttaqin & Susanto, 2019). Risk, security, lack of privacy, trust, as well as optimism bias affect citizens' usage behavior and usage of e-government systems (Munyoka & Maharaj, 2019). The customer's perceived risk is negatively affecting the e-government, while customer trust is positively affecting the e-government (Nanang et al., 2019). Infrastructural deficiency, security concerns, and data privacy are the main determinants of e-government adoption (Lawan et al., 2020). Perceived risk, security, computer anxiety, and computer self-efficacy are the main elements affecting users' intention for e-government services usage (Iyer, 2020). In higher education, academic services security is crucial to protect and maintain information (Riadi et al., 2020). The perception of e-security perception affects e-government systems usage (Yağanoğlu & Serim, 2020). Comparing Australian and Thailand e-government website security showed that the high adoption of e-government did not enhance protection for users (Thompson et al., 2020). Digital government laws and policies related to innovation and transparency increase trust and reduce bureaucracy and formality (Carvalho, 2020). The measurement of e-government accuracy and consistency affects trust in transactions (Martati

& Suminto, 2021). The security, risk perceptions, and trust in e-government services affect users' intentions as well as users' behavior (Assegaff et al., 2021). Trust in the Internet, Internet access, Internet skills, and trust in the government affect the usage intention for e-government services (Dilhani & Priyashantha, 2021). Perceived risk influence, trust in the Internet, and trust in the government affect citizens' e-government adoption (Li, 2021). Security, confidence, trust, and quality assurance influence citizens' intention to e-government services use and the users' satisfaction (Alsultanny, 2022). Trust in the internet, trust in government, quality of service, information quality, perceived benefits, and post-use of government e-services influence e-government online services usage (Ardi & Indra, 2022). E-service quality as well as e-trust positively affects e-satisfaction (Rachmawati & Syafarudin, 2022). Finally, credibility does not affect e-government services using intention in Jordan, this may be due to a lack of governmental support for e-government projects (AL-Rababah & Abu-Shanab, 2010), lack of experience (Rehman et al., 2012), weak top management commitment for e-government implementation (Alrawabdeh, 2017). Moreover, many people do not trust the government and its services due to the fast changes in Jordanian governments.

Moreover, results indicate that social influence strongly and significantly affects subjective norms, and subjective norms affect e-government services using intention. The current result is matching with previous studies' results such as that social influence is related to subjective norms (Mansour, 2012). Social influence affects the users' intention for e-government services usage (Aljazzaf, 2019). Effort expectancy, social influence, performance expectancy, facilitating conditions, perceived risk, and attitude affect citizens' intention for e-government services usage (Afrizal & Wallang, 2021; Avazov & Lee, 2020). Facilitation conditions, effort expectancy, performance expectancy, and social influence impact the adoption of e-government (Li, 2021). The key factors: perceived risk, performance expectancy, effort expectancy, facilitating conditions, perceived service quality, social influence, as well as trust in digital technology affect users' attitudes toward e-government services (AlHadid et al., 2022). The social influence factors affect attitudes using e-government (Iqbal & GENIE, 2022). Subjective norms, perceived behavior control, attitudes, and trust are affecting citizens' intention for e-government services adoption (Zahid et al., 2022). In Jordan, social relationships are very strong and affect the attitudes of each other, which affect subjective norms.

Finally, the findings show that the use intention for e-government has a positive and significant effect on the actual use of e-government services. As a result, highly motivated persons are more ready to use e-government. This conclusion is unique since there has been limited if any, research that has looked at the connection between E-government use intention and actual usage.

Theoretical Implications

From a theoretical standpoint, the study offers fresh data on how e-government services are used in Jordan. The disciplines of technology and behavior research have developed a tested model. The study is trying to provide a theoretical framework from which to assess the intention to use and actuality from the standpoint of citizens. The model is developed to include factors linked to behavioral attitudes, societal influences, external motivators and dangers, and personal traits, the model goes beyond the present e-government models. Additionally, by empirically exploring and validating novel routes throughout the quantitative phase, particularly those related to incentives, confidence in service delivery, transactional security, and social impacts in the market, the study expands the current theory.

Practical Implications

The outcomes explain why practitioners need to understand citizens' aspirations to use e-government services and evaluate their actual use, which represents an important component of their responses to such services, which may affect government agencies and the adoption patterns of those services. The study's findings indicate that providing incentives is essential for increasing the acceptance of individuals to use-government services. Hence, to encourage people to utilize those electronic services, government entities should offer additional advantages and incentives, such as reductions in cost,

lower prices, and other savings. The model also stresses the role of perceived transactional security in affecting e-government service credibility. Security is crucial for dealing with e-government services and citizens should perceive those services are secured and protected to use them. This puts some effort again on the government agencies to convince the citizens about transactional security and to what degree those services are protected against hacking, viruses, penetrations, spying, and other digital threats. Finally, the citizens' intention to use e-government services is seen to be significantly impacted by subjective norms, which are thought to be significantly impacted by social influences. Therefore, it is necessary to spread more knowledge about those services. This could be accomplished by promoting the idea of e-government services usage in Jordan through word-of-mouth, marketing initiatives, and the use of social media.

CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

In Jordan specifically, the e-government literature reveals low usage rates for e-government services, and it is unclear what factors affect citizens' intentions to use and actual utilization of those services. The purpose of the current research paper is to define factors that affect people's intention to use e-government and its effect on e-government actual use in Jordan. The study tested the factors that influence attitudes towards behavior, credibility, and subjective norms, and investigated their impact on the intention to use e-government services. Three kinds of variables were identified by the research and incorporated within the model. The impact of the following sub-variables (perceived ease of use, incentives, awareness, trust in government, perceived usefulness, transactional security, and trust in service delivery) on (subjective norms, credibility, and attitude towards behavior), then the effect of these factors on (intention to use e-government services), finally the impact of intention to use on actual use. Data were gathered from 352 participants through an online survey, which was developed for this research paper. The answers were checked and registered on SEM-PLS and SPSS. After assuring validity and reliability, hypotheses were tested. Results show the factors that significantly influence, either direct or indirect, the actual use of e-government services in Jordan. The factors had differing extents of influence on the citizens' attitudes and behaviors toward services offered by e-government. The highest factor that affects attitudes toward using e-government was incentives, then ease of use, and usefulness respectively, while awareness did not have a significant effect. Service credibility was mostly impacted by perceived transactional security, then trust in government, and trust in service delivery respectively, whereas social influence was the dominant factor to influence subjective norms. In turn, the citizens' intentions to e-government services usage were heavily affected by the citizen's attitudes toward those services, then subjective norms, while credibility has no significant effect. Finally, intentions to use affect actual use.

As this study was carried out on Jordanian people who use the internet in their daily life and most of them between the ages 18-28, the study recommends increasing the sample to be more representative of Jordanian people as well as conducting similar research in other countries, especially developing countries, also other electronic related dimensions may be included. The other limitation of this research is this is based on cross-sectional data. Therefore, future research can also test this based on longitudinal data (Rana & Dwivedi, 2016). Future research can also increase the sample size and these samples could be collected randomly through both adopters as well as non-adopters of the e-government service users.

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