Examining eDemocracy Adoption Intention for Digital Society: An Integrative Model

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Abstract— **eDemocracy is one of eGovernment services which aims at fostering public governance and increasing public participation in the governmental decision making process. Our review of related literature revealed that only a paucity of research looked at eDemocracy topic from the adoption perspective, and this is much more evident in the context of developing countries. As such and aiming to fulfill this gap, in this study we aim at examining the adoption intention of eDemocracy in Jordan as a case study from developing countries. To do so, this study develops an integrative model on the basis of Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM), which are both well-established theories in the field of Information Systems. Results indicate that both perceived usefulness and perceived ease of use are direct predictors of attitude. Further, the results reveal that attitude, subjective norm, and perceived behavioral control directly and positively affect the adoption intention of eDemocracy in Jordan. However, subjective norm was found to have the strongest effect. The study also provides important implications for theory and practice.**

Keywords-eDemocracy; eGovernment; Digital Democracy; Digital Society; Adoption; Theory of Planned Behaviour; Technology Acceptance Model.

I. INTRODUCTION

Electronic government (eGovernment) refers to the use of Information and Communication Technology (ICT) tools and applications so as to enhance transparency and accountability in public administration by improving public service delivery, access to information and services, in addition to governance [26][28][66]. However, the main emphasis of eGovernment is not only on the implementation of new ICT systems per se, but also on how to achieve the strategic goals of governments with the aid of various ICTs. One of the main strategic goals of implementing an eGovernment is the transformation of political systems; the so-called eDemocracy [26][54]. eDemocracy, in the form of greater public participation in decision making process, is expected to move governments forward by enabling effective representative democracy and by enhancing public governance [26]. This study explores the adoption of information and communication technologies and more specifically the internet technology within the context of citizen's participation in democratic processes.

The existing literature on Information Technology (IT) adoption has cover many different contexts, such as IT adoption [8][17][70], eBusiness and eCommerce [36][60][75], eLearning [11][15][56][62], Internet banking [1][24][44][49], mobile services [6][12][73][74], social networking [7][18][53], and eGovernment [5][10][20][22][23][52]. Numerous theoretical models, primarily developed from theories in sociology and psychology, have been applied to evaluate users' adoption new technologies. Among the widely used theories in this domain are the Theory of Reasoned Action (TRA) [4], Theory of Planned Behavior (TPB) [2][3], and Technology Acceptance Model (TAM) [30].

However, the findings of prior research demonstrate that citizen participation in eGovernment remains below expectations in all countries around the world [54]. By examining previous relevant research, one can easily notice that there is only little theoretical grounded studies approaching technology adoption in relation to eDemocracy [57], and more specifically, in developing countries. Hence, aiming to fill this gap, this study integrates TAM with TPB, so as to comprehensively understand the factors affecting the adoption intention of eDemocracy tools in Jordan as a developing country. By doing so, we believe that we could offer some deeper insights to explain the role of technology in citizen's participation.

The rest of this paper is structured as follows. In Section II, the concept of democracy is discussed. In Section III, the related theories (i.e., TPB and TAM) are described. In Section IV, the developed research model and hypotheses are discussed. In Section V, the employed research methodology is described. In Section VI, the study results are presented.

Finally, in Section VII, the study results along with their implications are discussed, and conclusions are presented.

II. THE CONCEPT OF EDEMOCRACY

eDemocracy, sometimes referred to as digital democracy, has received great attention in recent years [43]. There is no universally accepted definition of the eDemocracy concept. Mahrer and Krimmer [54: p.1] define eDemocracy simply as "an approach for increased and better quality citizen participation in the democratic processes". eDemocracy can also be broader and more complex and can be viewed as the use of Internet and its associated technologies (especially Web 2.0 tools) as well as mobile technologies including smart phones to enhance the public governance. It has the potential to provide a new avenue for participation, collaboration, deliberation and engagement in the political process that can make democratic processes more inclusive and transparent [57]. Despite the diversity of eDemocracy definitions found in the literature, there is a common central concept that underlies all these definitions- the assumption of normative goals of eDemocracy: to empower citizen engagement in public consultations for policy making through the utilization of new technologies and to enhance democratic processes and structures [29].

The literature on eGovernment often viewed eDemocracy as a component of overall eGovernment initiatives that aims to allow wider access to, and the delivery of, government information and services [26][54]. In their eGovernment development (i.e., maturity) model, Chatfield and Alhujran [26] proposed eDemocracy as the fourth stage of eGovernment service delivery capability development. This stage of eGovernment service delivery capability enables the public to participate in the process of transforming the government forward towards its democratic goals in terms of improved transparency and governance. Although offering eDemocracy functionalities to the public does not imply that a state or a government will be democratic automatically, greater public engagement is expected to have a positive impact on public governance (i.e., better transparency and accountability) [26].

A considerable amount of literature has already been published on the important role of citizens' participation and engagement towards public-policy making [26][29][67]. Many governments around the globe are engaging their citizens for feedback via their eGovernment websites [67]. By developing eDemocracy capabilities, such as eVoting, online polling mechanism, online surveys, discussion forums and online communities, eGovernment offerings have the ability to exchange opinions and viewpoints on issues that are important to governments and to members of society. eDemocracy including Web 2.0 and social networking sites can be used by governments to empower citizens by enabling them to express their opinions and by offering more opportunities for their voices to be heard by decision makers [67].

Despite the lack of economic resources, Jordan has developed and implemented many successful eDemocracy and eParticipation tools. A recent study conducted by Al-Hujran [9] indicated that the majority of ministries (46 per cent) offer some eDemocracy capabilities to citizens. In addition, the eGovernment program in this country has substantially moved forward in the eParticipation index worldwide, from being ranked 90th in the 2005 United Nations' eGovernment readiness report to 15th in the 2008 report. By using online polling mechanisms, discussion forums and online consultation facilities provided by government websites, Jordanians have the ability to exchange opinions and viewpoints on issues of importance with governments and with other members of society. However, public intention to use the existing eDemocracy tools is remain unexplored. This study is probably one of the first to determine the factors that may influence citizens' adoption of such tools in Jordan.

III. RELATED THEORIES: TPB AND TAM

Previous research have utilized and employed a number of theories in order to explain users' adoption and acceptance of technologies. This includes Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Diffusion of Innovation Theory (DOI), Technology-Task Fit (TTF), Unified Theory for Acceptance and Use of Technology (UTAUT), and others. In this study, we aim to integrate two of the most widely adopted theories in explaining acceptance and adoption of technologies, which are TPB and TAM so as to end up with a comprehensive model to examine the adoption intention of eDemocracy technologies by Jordanian Citizens. TPB would help us in examining eDemocracy adoption from a social perspective, whilst TAM is useful to examine the adoption of eDemocracy tools from a technical perspective by highlighting the important roles of usefulness and ease of use. The integration of the aforementioned two models would enable us to get a more cohesive understanding of the phenomenon under investigation from a socio-technical paradigm.

A. Theory of Planned Behavior

TPB is considered as one of the most influential theories in predicting and explaining behaviour. Various studies showed the applicability of TPB to various domains, and verified the ability of this theory in providing a valuable framework for explaining and predicting the acceptance of new information technology [47]. According to TPB, people's behaviors are determined by their intentions to perform the behaviour, where their intentions are influenced by attitudes towards behaviour, subjective norms, and their perceived behavioural control. The history of theory of planned behavior is traced back to the theory of reasoned action, developed by Ajzen and Fishbein [4].

The general framework of the theory of planned behaviour postulates three conceptually independent determinants of members' intentions, namely, Attitudes, Subjective Norms, and Perceived Behavioural Control. Attitude towards the behaviour refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behaviour to be acted upon [58][65]. Individual attitude is determined by personal beliefs and traits that characterize that individual in particular. The

second determinant strongly relates to social factors and is termed as individuals' subjective norms. Subjective norms refer to the perceived social pressure of the external environment surrounding individuals on whether to perform certain behaviour or not, and how family and friends would affect his/her perception of whether to behave in a certain way or not. This construct is consistently a weaker predictor of physical activity intentions than attitudes and perceived behavioral control [39][40]. The third antecedent of individuals' behavioral intentions is the degree of Perceived Behavioural Control which refers to one's perceived ease or difficulty of performing the behaviour [58]. Interestingly, Ajzen [3] assumes that perceived behavioral control reflects to some extent past experience as well as other anticipated hurdles and obstacles (i.e., resources and opportunities available to a person) which might be internal or external.

B. Technology Acceptance Model

TAM focuses on explaining the attitude behind the intention to adopt, accept and use a specific technology or service [63]. It is an adaptation of the TRA from psychology specifically tailored to model user acceptance of Information Technology (IT). TAM has been widely applied in acceptance behaviour across a broad range of IT [10][37][50][51][72]. However, it places more emphasis on the role of technology in affecting users' intentions towards their behaviors.

TAM is primarily built on the TRA, Expectancy Theory [61][71], and Efficacy Theory [19]. It theorizes that one's behavioral intentions are determined by two specific belief constructs (perceived usefulness, and perceived ease of use). In short, if the central goal is to predict IT adoption from an IT perspective, it can be argued that the TAM is preferable for the reason that it focuses on system design characteristics. TAM predicts whether individuals will accept and voluntary use a certain system.

However, the TAM's fundamental constructs do not fully reflect the specific influences of technological and usage-context factors that may influence users' acceptance [55]. Therefore, perceived usefulness, and perceived ease of use may not fully explain behavioral intentions towards the use of eDemocracy if not integrated with other social-related factors. Its fundamental constructs do not fully reflect the variety of user task environment and constraints [34]. Moreover, TAM does not take into account the human and social factors that the TPB considers.

IV. RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

Aiming to end up with a model which enjoys a high predictive and explanatory power; we in this study integrate TPB with TAM (see Fig. 1). This is because the Theory of Planned Behaviour takes only social-related factors in explaining and predicting individuals' adoption of technologies, but no technology-related factors are taken into consideration. Moreover, previous studies, for example [65], indicated that TPB's belief structures of intention require a decomposition of attitudinal beliefs if the explanatory power of the theory is to be increased.
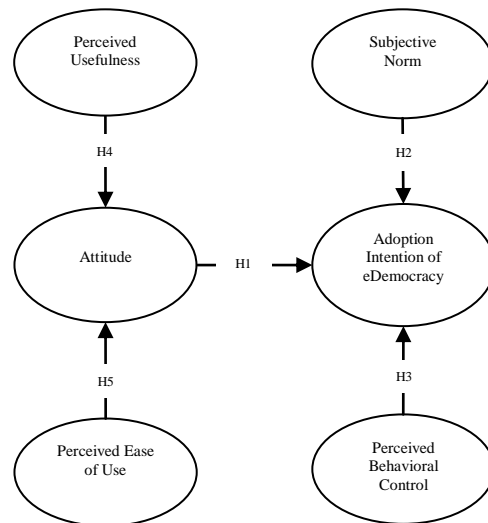

Figure 1. Research Model

Thus, integrating TAM with TPB would overcome the aforementioned limitations given that TAM examines uses' acceptance and adoption of technologies using technology-related factors those reflecting design characteristics. Further, TAM would help in decomposing the attitude construct and thus helps in providing an enhanced explanatory power for the model.

A. Perceived Usefulness

Davis [30: p. 320] defined Perceived Usefulness (PU) as "the degree to which a person believes that using a particular system would enhance his or her job performance". Previous studies indicated that citizens form positive attitudes toward a technology if they perceive that technology to be useful [5][34][38]. In our case, using eDemocracy tools is believed to be useful as it can be used by governments to enable citizens to express their opinions. This can lead to greater public governance convenience and better transparency and accountability. Thus, this study postulates the following hypothesis.

H1. *Perceived Usefulness directly and positively influences citizen's attitude towards eDemocracy tools.*

B. Perceived Ease of Use

Perceived Ease of Use (PEOU) refers to "the degree to which a person believes that using a particular system would be free of effort" [30: p.320]. In the context of eGovernment, several researchers reported the importance of PEOU as a determinant of the citizen adoption of eGovernment services, either directly or indirectly [5][21][34]. Findings of these studies acknowledged that developing eGovernment websites that are easy to use and more user-friendly would positively influence citizen attitude toward using these services. Based on this discussion, it is believed that citizens are likely to form positive attitudes if they consider their use of eDemocracy tools requires little efforts. Accordingly, we hypothesize the following.

H2. Perceived ease of use directly and positively influences citizen's attitude toward eDemocracy tools.

C. Attitude

Attitude towards the behaviour refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behaviour to be acted upon [3][58][65] and defined by salient beliefs about consequences multiplied by outcome evaluations [46]. Previous studies in studying behavior in the use of technology emphasize the positive relationship between attitude and behavioral intentions [31][69]. In our case, a citizen would evaluate the value of using eDemocracy tools, on the basis of his or her personal beliefs. When citizens believe that the use of eDemocracy as a medium for promoting democratic activities to be positive, they will form strong intentions to use its capabilities. Therefore, this study proposes the following hypothesis.

H3. There is a direct positive effect of attitude on the behavioral intention to use eDemocracy tools.

D. Subjective Norm

The second attitudinal determinant, according to the TPB, strongly relates to social factors and is termed as subjective norm. Subjective norm refers to the perceived social pressure of the external environment surrounding individuals on whether to perform a behaviour, or not [2]. Subjective norm is a function of individual's perceived expectations of important others (e.g., family and friends) and his or her motivation to act in accordance with such expectations. Prior eGovernment, research has investigated subjective norm as a significant predictor of intention to use eGovernment services [34][47]. They found that the subjective norm of citizens positively influences their behavioral intentions. Specifically, in the context of eDemocracy, subjective norm can be recognized as pressure comes from journalists to use recent web technologies such as blogs, wikis, discussion forums, Web 2.0 applications, and other social media to communicate and exchange information promoting democracy. Pressure to use eDemocracy tools may also stem from social referents like peers within the sector, or government. It also may come from eDemocracy rhetoric, discussions, and debates from academics, politicians, practitioners, and the media [57]. In sum, we expect that subjective norm can affect a citizen's behavioral intention to use eDemocarcy tools. Thus, we hypothesize the following.

H4. There is a direct positive effect of subjective norm on the behavioral intention to use eDemocracy tools

E. Perceived Behavioral Control

The construct of perceived behavioral control refers to individual's perception of the amount of control she/he has over carrying out certain behaviour [3]. This perception is closely related to the perception on how easy or difficult to

perform the behaviour [58]. Interestingly, Ajzen [3] assumes that perceived behavioral control reflects to some extent situational influences and past experience as well as other anticipated hurdles and obstacles (i.e., resources and opportunities available). Having control over one's own behaviour is a major determinant influencing human intentions to participate and engage in a digitally engaged community. In our case, citizen's self-evaluation of his ability to use eDemocracy tools can influence his/her intention to use these technologies. Indeed, eGovernment literature has empirically proven the importance of PBC in determining citizens' intentions to use eGovernment services in general [47] and eDemocracy in particular [57]. Accordingly, a positive influence of PBC on behavioral intentions to use eDemocracy tools is hypothesized in this study.

H5. There is a direct positive effect of perceived behavioral control on the behavioral intention to use eDemocracy tools.

V. RESEARCH METHODOLOGY

This section is dedicated to show the followed data collection procedure, sample profile, and measurement scales of the model's constructs.

A. Data Collection and Measurement Scales

This is a quantitative study that utilized the survey questionnaire as the main instrument for data collection. Hence, a self-completion, well-structured questionnaire was developed based on previous literature and was then distributed to a random sample and participation was completely voluntary. Prior research showed that the educated Jordanian citizens are the early adopters of the Internet [13] and are likely users of eGovernment and eDemocracy services in Jordan. For this study, therefore, we identify the university students who are Jordanian citizens as our population. A total of 250 questionnaires were distributed to community colleges, undergraduate and postgraduate students in Jordan and 195 questionnaires were returned. Thus, the response rate was (78%). Amongst the 195 returned questionnaires, only six questionnaires were excluded due to multiple skipped questions and missing values. In total, 189 responses (n = 189) were valid and usable for data analysis.

The constructs of interest in this study were "Attitude" (ATT), "Subjective Norm" (SN), "Perceived Behavioural Control" (PBC), and "Behavioural Intention to Use" (BI). The developed questionnaire in this study adapted validated questionnaire items from previous literature with some modifications to fit the specific context of this research. Measurements for subjective norms (SN), attitude (ATT), and perceived behavioral control (PBC) were adopted from [7]. As for behavioral intention to use (BI), perceived usefulness (PU), and perceived ease of use constructs, measurements were adopted from [5] and [59]. All items were measured using a five-point Likert-type scale, ranging from "strongly agree" to "strongly disagree". Table I lists the questionnaire items.

TABLE I.   SUMMARY OF MEASUREMENT SCALES

Construct	Item	Measure
Perceived Usefulness (PU)	PU1	Using eDemocracy tools enable me to access relevant information more quickly.
	PU2	Using eDemocracy tools enhances my effectiveness in accessing relevant information.
	PU3	Using eDemocracy tools allows me to access more relevant information than would otherwise possible.
	PU4	Using eDemocracy tools increases my productivity.
Perceived Ease of Use (PEOU)	PEOU1	Learning how to use eDemocracy tools is easy for me.
	PEOU2	I find it easy to use eDemocracy tools.
	PEOU3	My interaction with eDemocracy tools is clear and understandable.
	PEOU4	eDemocracy tools is flexible to interact with.
Behavioral Intention to Use (BI)	BI1	I intend to use eDemocracy tools frequently.
	BI2	I expect that I should use eDemocracy tools in the future.
	BI3	I will strongly recommend others to use eDemocracy tools
Attitude (ATT)	ATT1	I have positive opinion about eDemocracy tools.
	ATT2	I think that the use of eDemocracy tools is good for me
	ATT3	I think that the use of eDemocracy tools is appropriate for me.
Subjective Norms (SN)	SN1	People who influence my behaviour think I should use eDemocracy tools.
	SN2	People who are important to me would think that I should use eDemocracy tools
Perceived Behavioural Control (PBC)	PBC1	How much personal control do you feel have over the use of eDemocracy tools? (very little control/complete control).
	PBC2	How much do you feel that whether your use of eDemocracy tools is beyond your control? (not at all/ very much so).
	PBC3	Whether or not I use eDemocracy tools is entirely up to me

B. Sample Profile

The descriptive statistics of the sample showed that 52.4% of the respondents were male and 47.6% were female. Respondents aged less than 25 years formed the largest age group and represented 72% of the sample, whilst respondents aged between 26-45 years represented 14.8% of the sample.

Finally, 13.2% of the respondents aged above 46 years. In terms of their education, the majority respondents (i.e., 74%) are pursuing their undergraduate or community college degrees, whilst those pursing their postgraduate degrees represented only 26% of the sample. The details are shown in Table II.

TABLE II.   THE SAMPLE'S PROFILE

Measure	Item	Frequency	Percentage (%)
Gender	Male	99	52.4
	Female	90	47.6
Age	Less than 20	64	33.9
	20-25	72	38.1
	26-45	28	14.8
	46-55	22	11.6
	Above 55	3	1.6
Education	Community college	22	11.6
	Undergraduate	118	62.4
	Postgraduate	49	26

VI.   DATA ANALYSIS AND RESULTS

This study utilizes the Structural Equation Modeling (SEM) approach [41], with Partial Least Square (PLS) [42] as an analysis method. PLS has been widely used for theory testing and validation. PLS examines the psychometric properties and provides appropriate evidences on whether relationships might or might not exist [33]. In this study, we performed data analysis in accordance with a two-stage methodology [14] using Smart PLS 2.0 M3. The first step was to test the content, convergent, and discriminant validity of constructs using the measurement model, whilst the second step was to test the structural model and hypotheses.

A. Measurement Model

First, we assessed the reliability and validity of the measurement instrument using content, reliability, and convergent validity criteria. The content validity of our survey instrument was established in two ways. First, the constructs along with their measures which are used in this study were already validated in previous studies as they were all adopted from the existing literature. Second, the results of the pre-test we undertook with subject-matter experts assured content validity of the survey instrument. For reliability of the scale, Cronbach's alpha, which is a common method used to measure the reliability and internal consistency of scales, was used. Hair et al. [41] suggested that the reliability of the scale is generally accepted if the value of Cronbach's alpha for each construct is equal or greater than 0.70. The constructs included within the study's model exhibit a high degree of internal consistency as the values of Cronbach's alpha ranged from 0.86 (PEOU) to 0.94 (PU), as shown in Table III.

TABLE III.   RELIABILITY AND CONVERGENT VALIDITY

Measure	Item	Factor Loading	AVE	CR	Cronbach α
Behavioral Adoption Intention	AI1	0.909			
	AI2	0.932	0.868	0.952	0.924
	AI3	0.953			
Attitude	ATT1	0.901			
	ATT2	0.899	0.803	0.925	0.878
	ATT3	0.889			
Subjective Norm	SN1	0.945			
	SN2	0.944	0.892	0.943	0.879
Perceived Behavioral Control	PBC1	0.880			
	PBC2	0.924	0.805	0.925	0.879
	PBC3	0.886			
Perceived Usefulness	PU1	0.929			
	PU2	0.890			
	PU3	0.911	0.841	0.955	0.937
	PU4	0.937			
Perceived Ease of Use	PEOU1	0.857			
	PEOU2	0.776			
	PEOU3	0.855	0.705	0.905	0.862
	PEOU4	0.868			

A Composite Reliability (CR) and Average Variance Extracted (AVE) tests were conducted to measure convergent validity. Fornell and Larcker [33] suggested that the value of CR for each construct must exceed 0.70 whilst the value of the AVE must exceed 0.50 for the convergent validity to be assured. The CR and AVE values for the constructs included in the study model are all above acceptable levels. Moreover, the standardized path loadings for all indicators were above 0.55 and thus they are all significant [32].

TABLE IV.   DESCRIPTIVE ANALYSIS AND DISCRIMINANT VALIDITY

	Mean	SD	AI	ATT	SN	PBC	PU	PEOU
AI	2.77	0.82	**1.00**					
ATT	2.77	0.86	0.48	**1.00**				
SN	2.94	0.78	0.44	0.24	**1.00**			
PBC	2.88	0.69	0.60	0.38	0.23	**1.00**		
PU	2.79	0.97	0.62	0.58	0.35	0.37	**1.00**	
PEOU	2.52	0.68	0.57	0.19	0.33	0.32	0.30	**1.00**

Note: The square roots of the constructs' AVE values are shown in the diagonal line (in bold); non-diagonal elements are latent variable correlations.

As such, content validity, reliability, and convergent validity of the measurement instrument are all satisfactorily met in this research. As for discriminant validity, it is actually established when the square root of the AVE from the construct is greater than the correlation shared between the construct and other constructs in the model [27]. The discriminant validity of the measurement instrument is confirmed in this study given that the square root of the AVE

from each construct is larger than all other cross-correlations with other constructs (see Table IV).
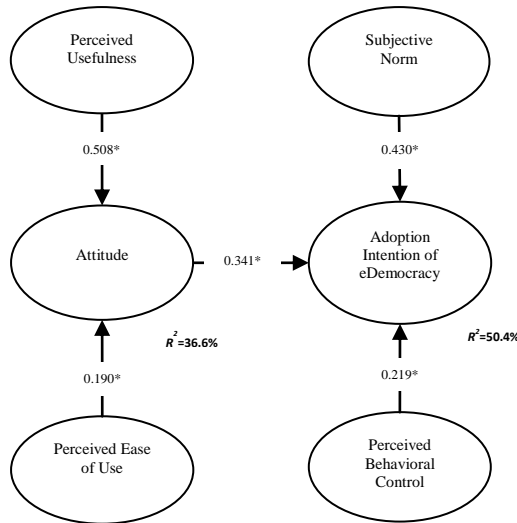
B. Structural Model

The results of the PLS-SEM analysis show, as in Fig. 2, the structural model estimation and evaluation of the relationships between attitude, subjective norm, perceived behavioral control and the target construct; i.e., behavioral adoption intention of eDemocracy. Fig. 2 also shows the structural model estimation and evaluation of the relationships between perceived usefulness, perceived ease of use, and the attitude construct. The R^2 value for each endogenous construct (i.e., attitude, and behavioral adoption intention of eDemocracy) was above 25% which demonstrate a highly acceptable prediction level in empirical research [16][35].The coefficient of determination R^2, which is the central criterion for the structural model's assessment [48], has a high value of 0.504 for this study's key target construct; i.e., behavioral adoption intention of eDemoacracy technology. Indeed, the high R2 proves the model's predictive validity [42]. We support the prior finding through the use of Q2 predictive relevancy measure [64]. The obtained Q2 values, after running the blindfolding procedure [27] with an omission distance D=8, were (0.280) for attitude, and (0.404) for the main target construct; i.e., behavioral adoption intention of eDemocracy tools. Both of the Q2 values are well above zero; indicating the predictive relevance of the PLS path model. The bootstrapping procedure was used and we selected 189 cases, 5000 samples, and the no sign changes option to evaluate the significance of the path coefficients [42].

Overall, the results validate the structural model and all hypotheses are supported. Our results indicate that the direct effect of attitude on behavioral adoption intention of eDemocracy has a significant ($p < 0.001$) value of 0.341; the effect of subjective norm on behavioral adoption intention of eDemocracy also has a significant ($p < 0.001$) value of 0.430; and the effect of perceived behavioral control on behavioral adoption intention of eDemocracy also has a significant ($p < 0.001$) value of 0.219. Thus, hypotheses 1, 2, and 3 have been empirically substantiated. Our results also indicate that perceived usefulness and perceived ease of use are two major determinants of attitude ($\beta = 0.51$, $p < 0.001$; $\beta = 0.19$, $p < 0.001$ respectively). Hence, hypotheses 4 and 5 are also supported.

VII.   DISCUSSION AND CONCLUSIONS

This study examines behavioral adoption intention of eDemocracy, using an integrative model that integrates two key behavioral adoption models: TPB and TAM. This study contributes to the understanding of inherent predictors of eDemocracy adoption. A major contribution is re-examining salient theories and model and empirically validating a set of interrelationships between key constructs that tend to be associated with behavioral intention by Arabian citizens who have a socio-cultural background different from developed countries in the Europe, U.S., or Asia. It is believed that the research model developed in this study can serve as a foundation for future research on citizen adoption of

eDemocracy tools. The overall research findings firmly support the validity of the developed model, accounting for 50.4% of the variances in citizens' intentions to adopt these tools. Specifically, all proposed factors (PU, PEOU, ATT, PBC, and SN) were shown to be significant predictors of citizens' intention to use eDemocracy tools. These findings support the significance of the developed model in predicting citizens' intentions to adopt eDemocracy tools.

*Parameter estimates are significant at 0.001 or less (p < 0.001).

Figure 2. Results of the Structural Model

The results show that citizens' attitude toward eDemocracy is determined jointly by perceived ease of use and perceived usefulness. These findings are consistent with previous TAM research that test and validate the consistent relationships between perceived usefulness, perceived ease of use and attitude [5][25][30][68]. These results suggest that the government should make eDemocracy tools more useful and usable. For example, governments could achieve this by increasing citizens' awareness about the usefulness of using eDemocracy services; providing eGovernment and ICT training workshops; and refining IT/IS systems selections to meet different citizens' needs.

Interestingly, the findings demonstrate that citizens' intention to use eDemocracy tools is importantly influenced by subjective norms. Unsurprisingly, subjective norm was found to have the strongest effect on the adoption of eDemocracy in Jordan. The Arabian culture has a relatively high collectivism orientation [45]. As a result, it is expected that citizens in this region are more sensitive to the social pressures, and have a tendency of accepting their peers' opinions and comply with expectations of important others (e.g., family and friends). This implies that eGovernment officials and policy makers in the Arab countries should carefully manage the peer influence and the social pressure on citizens to assist them to adopt new technologies such as eDemocracy tools.

This study also shows that perceived behavioral control plays a significant role on citizens' intentions to adopt eDemocracy tools. Indeed, such significant role of this construct is evident in the literature [47][57]. This implies that governmental agencies need to provide sufficient resources required to use these tools. It also implies that governments should train and educate citizens to increase their self-efficacy. High self-efficacy users have higher perceived behavior control than other users [47].

As with all studies, this study has its own limitations. This is a cross-sectional study that represents a slice of time and does not show how the citizen's attitude and behavior may change over time. Studies employing a longitudinal design would ascertain whether or not the citizen's attitude toward using eDemocracy tools changes over time, or not. Another limitation is derived from the geographical location of the current research (i.e., Jordan). Although, the findings are believed to be applicable to other Arab countries that share demographic characteristics with Jordan and provide their citizens with the same level of eGovernment in general and eDemocracy in particular, these findings are not necessarily applicable to other Arab countries that lagged behind Jordan in terms of eGovernment and eDemocracy. Therefore, further study in different countries would most likely strengthen and validate the findings of this study.

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