

# Citizens' Behavioral Acceptance of Electronic Voting Machine (EVM) in the Electoral Culture of Bangladesh

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## Abstract

Bangladesh is a democratic country that has implemented electronic voting machines (EVMs) to make elections more efficient, secure, accurate, and timely. The purpose of this study is to explore the factors that influence behavioral intentions to use EVM. The study identified four independent variables based on the literature behind citizens' intentions to use EVM. The study followed an explanatory research approach among e-voters in Dhaka, Bangladesh. The findings reveal that performance expectancy, trust in institutions, and effort expectancy have positive associations ( $p < 0.01$ ) with behavioral intention to use EVM. In contrast, trust in technology has not been found to have any significant association ( $p > 0.05$ ).

## Keywords

Electronic voting machine (EVM), political culture, E-governance, E-voting, Bangladesh

## Introduction

Voting is a basic right of every individual because it motivates people to elect fresh representatives and prevents undesirable politicians from gaining access to positions of power. Voting also gives citizens the opportunity to express their preferences for new leaders (Alvarez and dan Hall Thad, 2005). It is essential that elections adhere to a set of internationally recognized standards in order to give the appearance of being free and fair. These standards include accuracy, confidentiality, and truthfulness. Technology greatly influences how people uphold democracy in digital elections with accessibility and fairness (Yang, 2006). The electronic voting system is widely regarded as the primary driving factor in the election to replace the conventional paper-based voting system with one that is more accessible, simple, and flexible for the voters (Ekong and Ekong, 2010). Many nations have made multiple efforts to replace the conventional voting process with cutting-edge voting technology at various stages. According to the literature, the evolution of the voting process began in 1892 with the invention of the lever-arch machine, followed by the creation of the optical-scan machine, the introduction of punch cards, and finally the development of the electronic voting machine (EVM) (Adeyinka and Olasina, 2012; Gefen et al., 2005; Mokhawa and Mpabanga, 2013).

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**Correction (September 2023):** This article has been updated with Figure 1 since its original submission.

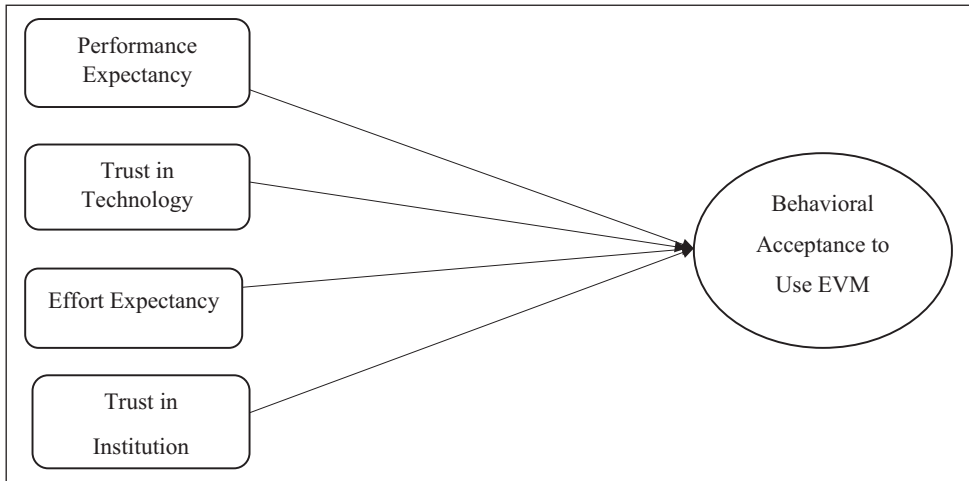
Since the 1960s, the EVMs were first used when punch card voting system were widely used to conduct elections. In, 1964, the United States was the first country that applied to conduct the presidential election using EVMs, and even seven developed countries used this system for their national elections (Gupta et al., 2008). In addition, the United Nations (UN) designated Brazil as the first member to organize a significant national election in 2002 using electronic voting technology (Carter and Bélanger, 2005). However, by holding the provincial election for Kerala, India became the first country in South Asia to use an electronic voting system. Since then, it has had a significant impact on India's national and municipal elections. Online voting methods have been used in a number of nations to make voting systems more useful, including several states of the United States, the United Kingdom, France, Switzerland, and Estonia for national elections, as well as Canada for local government elections.

Electronic voting has several opportunities over conventional voting system, including lower costs, tabulating the results accurately and quickly, improved accessibility and affordability, efficiency of vote counting, and a lower risk of humanistic errors (Braun, 2005). Avgerou et al.'s study (2007) showed that the use of electronic voting in Brazil has resulted in a more accurate counting of votes. In the 2004 municipal election in Brazil, they reported that it took only 5 hours after polls closed to count more than 100 million ballots and that after implementing EVMs in the election system, the rate of invalid voters decreased from 40% to 7.6%. In Bangladesh, the EVMs are used in both parliamentary and local government elections as part of a pilot study. The study has strived to explore the influential factors that influence behavioral intentions to use EVMs in election systems.

### **EVM in Bangladesh's electoral process**

The Bangladeshi government works to realize the goals of Digital Bangladesh 2021 by protecting people's rights to democracy, transparency, and effective delivery of public services. As a consequence of this, the Bangladeshi Election Commission is continuing its efforts to implement EVM voting in large-scale elections such as national and municipal polls. In June of 2010, EVMs were used for the first time in an election for Chittagong City Corporation. In spite of this, the Election Commission of Bangladesh decided to stop the use of this technology in 2015, owing to a number of difficulties and failures. After an interval of 1 year, in 2016, EVMs were once again used when the elections for the Rangpur City Corporation were conducted. The EVM was frequently criticized when it was recommended by the election commission as a replacement for paper ballots.

A lottery system was used to choose 6 seats out of 300 seats for 11th national election including Khulna-2, Satkhira-2, Rangpur-3, Dhaka-6, Chittagong-9, and Dhaka-13. About 5045 EVMs were installed at 845 polling sites around the country. Voters commonly express dissatisfaction with the fact that their votes were marked by another individual while they watched. The new voting technique that was used in the 11th general election resulted in a number of polling stations having to be closed for an extended period of time due to voting machine faults. This was one of the problems associated with the new voting method. It has been reported that voters in many areas have been unable to cast their ballots because the machines were unable to recognize their fingerprints. However, at a roundtable discussion, 40 registered political parties refused to approve the use of EVMs in Bangladesh's national and local elections. Because of the difficulties outlined above, it may be difficult for voters in Bangladesh to use EVMs in the election process that takes place in their nation, but the present government has strived to implement the EVM system throughout the country.



**Figure 1.** Conceptual framework.

## Theoretical framework

Procedural protection provides a competitive advantage in the process of developing and fostering societal approval for the creation of electronic processes because it is easily accessible and comprehensible to people (Ma et al., 2021; Figure 1). To understand the citizen perception and which factors are influential to use the technology, several models and theories have been used, including the Technology Acceptance Model (TAM) (Davis, 1989); the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1977); the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003); and the Innovation Diffusion Theory (IDA) (Moore and Benbasat, 1991). A couple of studies have found that the reliability and confidentiality of technology influence the voting mechanism more and improve the voters' behavioral motivation to cast vote using this system (Yao and Murphy, 2007). According to Avgerou (2013), when citizens believe a technology system to be more dependable, trustworthy, and valuable, they might decide to delegate their democratic voice through it. Moreover, Davis et al. (1989) identified two major factors regarding perceived usefulness, and perceived ease of use behind behavioral intentions to use new information systems.

Venkatesh et al. (2003) identified several key determinants of behavioral motivation to use new technology in their UTAUT model, including performance expectancy, effort, and social dominance (Table 1). Mensah (2020) identified three key factors that contributed to the intention to opt for an electronic voting system. These factors were performance expectancy, trust in institutions, and effort expectancy. The research discovered that trust in institutions and performance expectancy had substantial positive associations with the desire to use e-voting, while effort expectancy did not find any relation. Alomari (2016) found that perceived usefulness, trust in government, complexity, and attitudes were determinant factors in the citizens' acceptance of the use of the e-voting system, while the previous e-governance adaptation model, programmer design, and belief were not found to be significant. Moreover, Chauhan et al. (2018) demonstrated that the behavioral motivation to use the EVM is determined by several factors, such as perceived security, trust in technology, performance expectations, and social impact. Schaupp and Carter (2005) identified the possibility of security breaches and device failures that substantially influenced citizens to use electronic voting technologies. Furthermore, Lian (2015) calculated that citizens' belief in

**Table 1.** Variables, description, and sources.

Variables	Description	Sources
Performance expectancy	It is the extent to which voters feel that utilizing an electronic voting system helps them have more faith in the electoral process.	Venkatesh et al. (2003); Duyck et al. (2010); Gupta et al. (2008).
Trust in technology	The confidence of voters in the capabilities of electronic voting machines to maintain election security while also ensuring free and fair voting at all levels of government.	McKnight (2005); McKnight et al. (2011); Powell et al. (2012); Schaupp and Carter (2005).
Effort expectancy	Voters' ability to cast a vote using an electronic voting machine is dependent on how easy it is for them to use.	Mensah (2020); Chauhan et al. (2018); Lian (2015).
Trust in institution	The confidence of voters in the capabilities of election conducting institution to ensure free and fair election at all levels of government.	Alomari (2016); Yang (2006).

and reliance on technology decreased as a result of their experience with less protection in technology. Moreover, a number of studies have found effort expectancy, social influence, and performance expectancy have influenced the behavioral intention to use an electronic system (Duyck et al., 2010; Gupta et al., 2008; Lian, 2015). However, the study identified four indicators or hypotheses related to behavioral intention to use EVM in election systems.

## Research method

The study was covered under the cross-sectional research design by following explanatory study. This study design was chosen because it was better suited for conducting social research in a limited amount of time (Setia, 2016). To collect primary data, a structured questionnaire survey was used, which is better suited to covering a wide range of respondents. In the field of social science research, questionnaire surveys are applied widely (Chauhan et al., 2018; Croasmun and Ostrom, 2011). The study used a purposive sampling technique to collect responses from respondents. Although non-probability sampling methods cannot be properly generalized to the population, many scholars have stated that the purposive sampling technique is appropriate for gathering information and ideas on emerging and relatively new topics (Acharya et al., 2013; Sekaran and Bougie, 2016). The secondary data were used from different reliable sources including peer-reviewed journals' articles, books, and reliable documents.

A power analysis test was used to determine sample size, and the researcher obtained 132 samples with an effect size of 0.15 at 95% power and a significant value of 0.05. To reduce the possibility of a non-response error, 18 additional responses were collected. At individual-level research, one-half surveys' sample size had 100 to 200 (Fowler, 2004). This study's target population was defined as adults aged 18 and up (67%) who can vote in national and local government elections using EVMs (Bangladesh Election Commission, 2022). The study followed the 5-point Likert-type scale to measure particular variables from Croasmun and Ostrom (2011) and Joshi et al. (2015). However, the researcher used Statistical Package for the Social Sciences (SPSS) version 25 to analyze the quantitative data. The study used different types of analysis techniques, including descriptive analysis, normality and reliability testing, correlation analysis, principal

**Table 2.** Principal component analysis.

Factors		Component			
		1	2	3	4
Performance expectancy (PE)	PE1	0.909			
	PE2	0.786			
	PE3	0.891			
	PE4	0.895			
Trust in technology (TT)	TT1		0.900		
	TT2		0.897		
	TT3		0.744		
Effort expectancy (EE)	EE1			0.852	
	EE2			0.888	
	EE3			0.806	
	EE4			0.833	
Trust in institutions (TI)	TI1				0.909
	TI2				0.870
	TI3				0.840
	TI4				0.844

KMO and Bartlett's Test: 0.926.

component analysis (PCA), and multiple regression analysis. Descriptive analysis was used to summarize respondents' demographic profiles, and reliability was tested by computing the Cronbach's alpha coefficient and cutoff point is 0.7 (Nunnally, 1978). The Kaiser–Meyer–Olkin (KMO) and Bartlett's Test ( $>0.6$ ) were measured to determine how well-suited data are for factor analysis.

## Data analysis and findings

### Demographic information

The study found more male respondents (60.7%) than female respondents (39.3%). The majority of respondents (66.7%) were between the ages of 18 and 30. More than half of the respondents (53.3%) cast their votes between 2015 and 2021. Among the respondents, 69% prefer EVM over the traditional method. Females are more likely to prefer EVM, and higher-educated people and technically sound people prefer it as well.

### Factors and reliability analysis

Table 2 shows that a factor analysis using PCA was conducted to analyze the results of the survey. The suitability of the data for factor analysis was assessed by KMO and Bartlett's test. The value of 0.926 is statistically significant, supporting the factorability of the correlation matrix. The result shows that all the factor loadings for each of the items measured were above the recommended values of 0.70, with a minimum value of 0.744 and a maximum value of 0.909.

Table 3 shows that the Cronbach's alpha values and mean values for four independent variables. Cronbach's alpha for the variables performance expectancy (0.90), trust in technology (0.80), effort expectancy (0.86), and trust in institutions (0.89) where ranged from 0.80 to 0.90. The

**Table 3.** Mean and reliability value of variables.

Variables	Items	Mean	Standard deviation	Cronbach's alpha value
Performance expectancy	4	3.605	0.96945	0.90
Trust in technology	3	3.462	0.84326	0.80
Effort expectancy	4	3.460	1.37514	0.86
Trust in institution	4	3.060	1.04097	0.89

**Table 4.** Pearson correlation matrix.

Correlations		1	2	3	4	5
1	Performance expectancy	1				
2	Trust in technology	0.698**	1			
3	Effort expectancy	0.559**	0.638**	1		
4	Trust in institutions	0.691**	0.693**	0.474**	1	
5	Behavioral intension	0.754**	0.633**	0.482**	0.673**	1

\*\*Correlation is significant at the 0.01 level (two-tailed).

**Table 5.** Multiple regression analysis—model summary.

Model		Unstandardized coefficients		Standardized coefficients	t	p value	Collinearity statistics	
		B	SE	Beta			Tolerance	VIF
1	(Constant)	0.111	0.098		1.123	0.263		
	Performance expectancy	0.155	0.042	0.312	3.657	0.000	0.318	3.142
	Effort expectancy	0.184	0.044	0.368	4.165	0.000	0.298	3.354
	Trust in technology	0.006	0.052	0.011	0.122	0.903	0.263	3.804
	Trust in institutions	0.097	0.036	0.211	2.740	0.007	0.393	2.545

Dependent variable: behavioral intension,  $R^2=0.654$ ,  $F(4, 145)=71.38$ ,  $p < 0.001$ .

highest mean value of this four variables is performance expectancy (3.605) while lowest value is trust in institution (3.060) in a 5-point scale.

The results of a correlation analysis that were performed to investigate the relationship between the variables are shown in Table 4. All the independent and dependent variables are positively correlated. The two most strongly correlated variables are performance expectancy and behavioral intention (0.754), trust in technology and behavioral intention (0.633), effort expectancy and behavioral intention (0.482), and trust in institutions and behavioral intention (0.673). Among the variables, the lowest correlation value was for effort expectation and trust in institutions (0.474).

Table 5 shows the computed  $R^2$  value for the regression model is 0.654, indicating that the independent variables can explain 65.4% of the variance in behavioral intention to use EVM. The  $F$  value (71.38) is also statistically significant ( $p < 0.01$ ). The result also shows that three of the four independent variables emerged as significant. As per the regression result, effort expectancy and performance expectancy can be considered the most important determinants of behavioral intention. For every increase in effort expectancy, behavioral intention will go up by 0.368, when all the other variables remain constant.

## Discussion

Bangladesh has historically been a democratic nation, but its political institutions are unable to hold free and fair elections. According to Huntington (2006), political violence in Bangladesh often takes the form of killing, disappearance, forged ballots, torture, and the snatching of ballot boxes and papers. However, Bangladesh has transitioned into the digital era and achieved the position of a developing nation by adopting the Vision 2021 and Sustainable Development Goals 2030, which placed an emphasis on electronic systems at every level of government sectors. To increase transparency, reliability, and acceptance of the election among all voters, the government added EVMs to the electoral process. Findings show that female, young voters who are technologically savvy and have a higher level of education are more interested in using EVMs than older, less-educated voters. However, the study discovered three major variables as antecedents of behavioral intention to use EVM among the four, including performance expectancy, effort expectancy, and trust in the institution, whereas trust in technology did not support this finding.

Performance expectancy was found in this study to be the strongest influence on behavioral intention to use EVMs in national elections. This finding was supported by various previous works on E-voting (Powell et al., 2012; Schaupp and Carter, 2005). The finding suggests that the significance degree of individuals' behavioral intentions to utilize EVMs will improve if they become aware of the benefits of system (Kelly, 1997). Therefore, the election commission should examine how to spread information about the usefulness of EVMs and make sure that citizens are aware of their benefits. The value-adding characteristics of EVMs might be publicized by planners in order to cultivate people's performance expectations, and this could be done via digital or print media. Trust in institutions is discovered to be a predictor of behavioral intent to use EVM. This finding is consistency with literature (Alharbi, 2017; Aljarrah et al., 2016; Chauhan et al., 2018), where Pleger and Mertes (2018) and Powell et al. (2012) found trust in government. With respect to these findings, the local government institutions and election commission, as well as security institutions, have to play a proactive role to maintain institutionalism and build a trustworthy electronic transaction.

Findings regarding effort expectancy were discovered to influence behavioral intention to use EVM. Several other studies found similar results (Naranjo-Zolotov et al., 2018; Powell et al., 2012), but this contradicts the findings of Chauhan et al. (2018), who discovered that effort expectancy has no positive impact on Indian voters' intention to use the EVM. In Bangladesh, about 61.05% of people live in rural areas, and 28.44% of rural people are illiterate (World Bank, 2022). Hence, the government of Bangladesh, along with non-governmental organizations, makes sure to inform and provide technical support for the use of EVMs at local level. Trust in technology, on the contrary, had no positive impact on behavioral intentions to use EVM in Bangladesh. This result is consistent with previous research (Powell et al., 2012), but Chauhan et al. (2018) discovered a positive relationship between trust in technology and behavioral intention to use EVMs in the electoral process. However, in order to implement the EVM system effectively, the concerned authorities should take a proactive role in educating citizens about it.

## Conclusion and policy implication

The main purpose of this study is identification of the key variables that may affect a voter's perception to utilize an EVM in both national and local elections. Three out of the four factors to utilizing EVM were discovered by the research. The usage of EVM was shown to be strongly

positively correlated with performance expectation, trust in institutions, and effort expectancy, but not with trust in technology. These results help policymakers design new guidelines for successfully using EVMs in elections. The first implication for public policy is that different people have different perspectives on the implementation of new technologies. Citizens assume that the use of an EVM in a voting system will foster the implementation of transparent, free, and fair elections in terms of performance expectations, which will motivate citizens' intention to use such systems for elections. The second implication is that as the government of Bangladesh has strived to implement this system as pilot study, the authority must be designed voting system in such manner that would be a pleasant impression for citizens to use this system. Hence, the system should be simple, straightforward, and easy so that the voters can easily choose their desired candidates without facing any technical challenges. However, the system was utilized to strip voting rights from members of society with lower levels of technical expertise, notably those living in rural regions to bring good result.

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### References

- Acharya AS, Prakash A, Saxena P, et al. (2013) Sampling: why and how of it. *Indian Journal of Medical Specialties* 4(2): 330–333.
- Adeyinka T and Olasina G (2012) Voters' perception of the adequacy and suitability of e-voting in the Nigeria polity. In: Bwalya KJ and Zulu SFC (eds) *Handbook of Research on e-Government in Emerging Economies: Adoption, e-Participation, and Legal Frameworks*. Pennsylvania, PA: IGI Global, pp.123–144.
- Alharbi BA (2017) Citizenship education in the Kingdom of Saudi Arabia: history and current instructional approaches. *International Journal of Education and Literacy Studies* 5(4): 78–85.
- Aljarrah E, Elrehail H and Aababneh B (2016) E-voting in Jordan: assessing readiness and developing a system. *Computers in Human Behavior* 63: 860–867.
- Alomari MK (2016) E-voting adoption in a developing country. *Transforming Government: People, Process and Policy* 10(4): 526–547.
- Alvarez M and dan Hall Thad E (2005) Lessons and trends in e-voting: initiatives in the US and abroad American Political Science Association annual meeting. Available at: <https://dspace.mit.edu/handle/1721.1/96575> (accessed 1 January 2023).
- Avgerou C (2013) Explaining trust in IT-mediated elections: a case study of e-voting in Brazil. *Journal of the Association for Information Systems* 14(8): 2.
- Avgerou C, Ganzaroli A, Poullymenakou A, et al. (2007) ICT and citizens' trust in government: lessons from electronic voting in Brazil. In: *Proceedings of the 9th conference on social implications of computers in developing countries*, Sao Paolo, 22–25 May.
- Bangladesh Election Commission (2022) Smart card and Voter list. Available at: <http://www.ecs.gov.bd/category/smart-card-and-voter-list> (accessed 1 January 2023).
- Braun N (2005) *e-Voting: Worldwide Developments, Opportunities, Risks and Challenges, Reflections on the Future of Democracy in Europe*. Strasbourg: Council of Europe Publishing.
- Carter L and Bélanger F (2005) The utilization of e-government services: citizen trust, innovation and acceptance factors. *Information Systems Journal* 15(1): 5–25.
- Chauhan S, Jaiswal M and Kar AK (2018) The acceptance of electronic voting machines in India: a UTAUT approach. *Electronic Government, an International Journal* 14(3): 255–275.

- Croasmun JT and Ostrom L (2011) Using likert-type scales in the social sciences. *Journal of Adult Education* 40(1): 19–22.
- Davis FD (1989) Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly* 13(3): 319–340.
- Davis FD, Bagozzi RP and Warshaw PR (1989) User acceptance of computer technology: a comparison of two theoretical models. *Management Science* 35(8): 982–1003.
- Duyck P, Pynoo B, Devolder P, et al. (2010) Monitoring the PACS implementation process in a large university hospital: discrepancies between radiologists and physicians. *Journal of Digital Imaging* 23(1): 73–80.
- Ekong UO and Ekong V (2010) M-voting: a panacea for enhanced e-participation. *Asian Journal of Information Technology* 9(2): 111–116.
- Fishbein M and Ajzen I (1977) Belief, attitude, intention, and behavior: an introduction to theory and research. *Philosophy and Rhetoric* 10(2): 130–132.
- Fowler FJ Jr (2004) *Survey Research Methods*. Beverly Hills, CA: SAGE.
- Gefen D, Rose GM, Warkentin M, et al. (2005) Cultural diversity and trust in IT adoption: a comparison of potential e-voters in the USA and South Africa. *Journal of Global Information Management* 13(1): 54–78.
- Gupta B, Dasgupta S and Gupta A (2008) Adoption of ICT in a government organization in a developing country: an empirical study. *Journal of Strategic Information Systems* 17(2): 140–154.
- Huntington SP (2006) *Political Order in Changing Societies*. London: Yale University Press.
- Joshi A, Kale S, Chandel S, et al. (2015) Likert scale: explored and explained. *British Journal of Applied Science & Technology* 7(4): 396–403.
- Kelly K (1997) *New Rules for the New Economy: Twelve Dependable Principles for Thriving in a Turbulent World*. London: Penguin Press.
- Lian JW (2015) Critical factors for cloud based e-invoice service adoption in Taiwan: an empirical study. *International Journal of Information Management* 35(1): 98–109.
- Ma F, Ren M, Fu Y, et al. (2021) Security reinforcement for Ethereum virtual machine. *Information Processing & Management* 58(4): 102565.
- McKnight DH (2005) Trust in information technology. *The Blackwell Encyclopedia of Management* 7: 329–331.
- McKnight DH, Carter M, Thatcher JB, et al. (2011) Trust in a specific technology: an investigation of its components and measures. *ACM Transactions on Management Information Systems* 2(2): 1–25.
- Mensah IK (2020) Impact of performance expectancy, effort expectancy, and citizen trust on the adoption of electronic voting system in Ghana. *International Journal of Electronic Government Research* 16(2): 19–32.
- Mokhawa G and Mpabanga D (2013) Is e-voting a possibility for Botswana's 2014 general elections? University of Botswana. Available at: <http://hdl.handle.net/10311/1529>
- Moore GC and Benbasat I (1991) Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research* 2(3): 192–222.
- Naranjo-Zolotov M, Oliveira T and Casteleyn S (2018) Citizens' intention to use and recommend e-participation: drawing upon UTAUT and citizen empowerment. *Information Technology & People* 32: 364–386.
- Nunnally JC (1978) *Psychometric Theory*. 2nd ed. New York: McGraw Hill.
- Pleger LE and Mertes A (2018) Use and assessment of e-voting systems: findings from an online-survey among Swiss nationals living abroad. *Swiss Yearbook of Administrative Science* 9(1).
- Powell A, Williams CK, Bock DB, et al. (2012) E-Voting intent: a comparison of young and elderly voters. *Government Information Quarterly* 29(3): 361–372.
- Schaupp LC and Carter L (2005) e-voting: from apathy to adoption. *Journal of Enterprise Information Management* 18: 586–601.
- Sekaran U and Bougie R (2016) *Research methods for business: a skill building approach*. John Wiley & Sons.
- Setia MS (2016) Methodology series module 3: cross-sectional studies. *Indian Journal of Dermatology* 61(3): 261–264.

- Venkatesh V, Morris MG, Davis GB, et al. (2003) User acceptance of information technology: toward a unified view. *MIS Quarterly* 27(3): 425–478.
- World Bank (2022) Bangladesh: rural population. Available at: <https://tradingeconomics.com/bangladesh/rural-population-percent-of-total-population-wbdata.html> (accessed 1 January 2023).
- Yang K (2006) Trust and citizen involvement decisions: trust in citizens, trust in institutions, and propensity to trust. *Administration & Society* 38(5): 573–595.
- Yao Y and Murphy L (2007) Remote electronic voting systems: an exploration of voters' perceptions and intention to use. *European Journal of Information Systems* 16(2): 106–120.

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