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Research-in-Progress

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ABSTRACT

Electronic voting refers to internet voting (e-voting), a system for electronically casting and counting votes. The current voting service provided by the government includes balloting paper and e-voting. However, these services cannot be relied on due to several issues such as electoral fraud (e.g., counting, rigging, and election manipulation), circuitry failure (e.g., tampering with the motherboard), and, more importantly, such services do not provide the facility to track back the casted vote. Considering the problems in earlier voting services, the blockchain-as-a-service for e-voting has been introduced to make the voting process more secure, immutable, transparent, and reliable. Within the blockchain-as-a-service for e-voting, we have reviewed the available literature and witnessed that the majority of the studies have given much emphasis on the technical side but lack its focus on the adoption behavior of blockchain-as-a-service for evoting during the election period. Therefore, the foci of this study to explore the antecedent (i.e., digital literacy) and consequences (i.e., consumer wellbeing, users' referral) of users' adoption behavior of blockchain-as-a-service for e-voting under the mediating mechanism of users' perceived trust between digital literacy and adoption behavior. This study collected data from a 315 US sample using the Mturk. Partial least squares – structural equation modeling (PLS-SEM) analyses were used to analyze the study data. The PLS-SEM analysis revealed that the measurement model of the study, including digital literacy as a higher-order reflective-formative construct and other reflective models (e.g., adoption behavior, consumer wellbeing, etc.), have adequate reliability and validity. Upon estimating the study's structural model, we found that digital literacy of blockchain e-voting positively impacts on perceived trust and adoption behavior of blockchain e-voting technology. Perceived trust in blockchain e-voting also revealed to have a positive impact on users' adoption behavior of blockchain-as-a-service for evoting. Furthermore, the results of the study indicated that blockchain adoption behavior is a significant predictor of consumer well-being and citizen referral behavior. We also tested the mediating effect of perceived trust between digital literacy and adoption behavior of blockchain-as-a-service for e-voting and found that digital literacy successfully predicts the adoption behavior of blockchain e-voting through perceived trust, signifying the pivotal role of trust. This study theoretically extends the domain of blockchain-as-a-service for evoting via investigating its potential antecedent (i.e., digital literacy) and consequences (i.e., citizen referral behavior and consumer well-being) of users' adoption behavior of blockchain-as-a-service for evoting. Besides, we also expands the literature of perceived trust via studying it as a mediating mechanism between digital literacy and users' adoption behavior of blockchain-as-a-service for evoting. It also helps design, prepare, and implement new technologies while considering consumers' digital literacy and trust. Government officials and regulators should promote ways to improve the level of digital literacy to implement the blockchain e-voting service fully. Policymakers should collaborate with industry practitioners to create a well-thought-out plan that targets and improves public digital literacy while also increasing trust in blockchain e-voting to increase people's adoption and usage of this technology.

Keywords

Blockchain-as-a-service, e-voting, digital literacy, trust, adoption behavior, consumer well-being, and citizen referral behavior.