

REVOLUTIONISING E-GOVERNMENT UPTAKE: INSIGHTS FROM THE LIBYAN MINISTRY OF JUSTICE

Ashraf Omran Wanis Amhamed, Ali Khatibi, S. M. Ferdous Azam

Postgraduate Centre, Management and Science University, Shah Alam, Malaysia

ABSTRACT

In an era defined by digital transformation, the acceptance and implementation of e-government initiatives are important in modernizing public services and streamlining governance processes. This research explores the factors influencing the acceptance of e-government within the Libyan Ministry of Justice, providing valuable insights into the dynamics of technology adoption in a transitional environment. Utilising the Unified Theory of Acceptance and Usage of Technology (UTAUT2), the study investigates how individual, organisational, and contextual factors shape the intentions and actual usage of e-government platforms among ministry personnel. Through a comprehensive mixed-methods approach involving surveys, interviews, and document analysis, the research explores critical determinants such as perceived usefulness, ease of use, social influence, habit formation, and price value. Furthermore, contextual elements like organisational culture, leadership support, infrastructure readiness, and legal frameworks are analysed to assess their impact on e-government acceptance. The findings offer nuanced perspectives on the challenges and opportunities surrounding e-government adoption within the Libyan Ministry of Justice, underscoring the need to address socio-cultural, technological, and institutional barriers. The study concludes with actionable recommendations tailored for policymakers, practitioners, and stakeholders aimed at enhancing an environment conducive to e-government adoption. These recommendations include the development of customized training programs, the establishment of resilient infrastructure, the enhancement of legal frameworks, and the promotion of digital literacy initiatives. By leveraging the insights gleaned from this research, the Libyan Ministry of Justice and other government entities can refine their e-government strategies, enhance service delivery, and bolster transparency and accountability in governance practices.

Keywords: E-government acceptance, Technology adoption, Unified Theory of Acceptance and Usage of Technology (UTAUT2), Libya, Ministry of Justice

INTRODUCTION

Information and communication technology (ICT) has Revolutionised organisational processes worldwide, particularly within the aspect of public administration, where e-government systems have emerged as powerful tools for enhancing efficiency and governance (Dwivedi et al., 2019; Tamilmani et al., 2021). While developed nations have made significant strides in adopting e-government practices, developing countries face unique challenges in enhancing acceptance and utilisation of such systems among employees (Mellouli, Bouaziz, & Bentahar, 2020).

Despite the increasing recognition of e-government's potential benefits, there exists a notable gap in research on its effectiveness in developing countries, especially from the perspective of government employees (Mellouli, Bouaziz, & Bentahar, 2020). This knowledge gap impedes efforts to design and implement e-government initiatives that align with the needs and preferences of end-users, underscoring the need for empirical investigations into the factors shaping e-government system acceptance among employees in developing nations like Libya. Among Arab nations undergoing economic and infrastructural development, Libya stands out as a country poised to reap significant benefits from the adoption of e-government systems (Zaied Shouran, 2021). However, the reluctance of employees to embrace ICT presents a significant obstacle to the successful implementation of such initiatives (Wibowo et al., 2023). Addressing this challenge necessitates a nuanced understanding of the socio-technical factors influencing employee acceptance of e-government systems, particularly within the Libyan context.

Existing research efforts in Libya have predominantly focused on laying the groundwork for electronic governance, overlooking the crucial aspect of user acceptance and engagement (Zaied Shouran, 2021). To fully capitalize on the potential of e-government initiatives, there is a critical need to shift attention towards enhancing employee buy-in and ensuring adequate levels of technological proficiency among citizens. Furthermore, there is a scarcity of studies examining the factors influencing e-government system adoption specifically in developing nations, highlighting the importance of further exploration in this domain (Khaled, Arshah, & Kadi, 2019).

In conclusion, understanding the dynamics of e-government system acceptance among employees is essential for the successful implementation of such initiatives in developing countries like Libya. By bridging the existing research gap and gaining insights into the factors influencing acceptance, policymakers and practitioners can design and implement e-government strategies that are tailored to the needs and realities of the Libyan context. This research aims to contribute to the broader discourse on e-government adoption in developing nations, ultimately enhancing the effective use of ICT for governance and public service delivery.

Employee acceptance of e-government systems is crucial for their successful implementation and utilisation within organisations (Mohtaramzadeh, Ramayah, & Jun-Hwa, 2018). In Libya, the government has expressed concern over the lack of employee adoption of e-government systems, highlighting the urgency of investigating the factors influencing acceptance (Jubran & Ali Djamhuri, 2016). Given the central role of employee engagement in the success of e-government initiatives, understanding the determinants of acceptance is paramount.

Moreover, the Middle East and North Africa region, which includes conflict-affected countries like Libya, remains relatively understudied in terms of e-government system implementation and assessment (Faaeq, 2019). Despite global trends towards e-government adoption, there is evidence

of significant failure rates in implementation, underscoring the need for context-specific research to inform policy and practice in these regions.

Against this backdrop, this study seeks to identify and analyse the factors influencing the acceptance of e-government systems among employees in developing countries, with a specific focus on Libya. By addressing this research gap, we aim to contribute to the understanding of e-government adoption dynamics in diverse socio-cultural contexts, thereby informing strategies to enhance the effectiveness and sustainability of e-government initiatives.

Furthermore, advancing e-government acceptance within the Libyan Ministry of Justice requires a comprehensive understanding of the contextual factors shaping its implementation. By addressing challenges related to digital literacy, infrastructure, and citizen engagement, Libya can leverage the transformative potential of e-government to enhance governance and service delivery. This study aims to explore these factors and propose recommendations for enhancing e-government acceptance among employees in the Libyan Ministry of Justice.

LITERATURE REVIEW

The landscape of governmental processes has undergone a significant transformation in recent years, largely driven by the rapid evolution of information and communication technology (ICT) (Putri et al., 2020). This transformation has given rise to the concept of e-government, which entails the utilisation of ICT to enhance the efficiency, effectiveness, and overall service delivery of public administrations (Biswas, 2022). E-government systems represent an important shift in governance practices, offering immense potential to streamline operations and enhance greater citizen engagement.

The emergence of e-government as a prominent phenomenon can be traced back to the 1990s, coinciding with the advent of network-based IT infrastructure that enabled government agencies to leverage technology for their various functions (Heeks, 2006). E-government is characterized by multifaceted interactions spanning government-to-government (G2G), government-to-citizen (G2C), government-to-business (G2B), and government-to-employee (G2E) domains (UNESCO). These interactions facilitate a wide array of activities, including service delivery, information dissemination, and internal organisational processes.

Despite the promising prospects of e-government, many developing nations grapple with challenges in its adoption and implementation (Abied, Ibrahim, & Kamal, 2022). Issues such as infrastructural constraints and organisational barriers often impede the progress of e-government initiatives, resulting in the nascent stages of development in these countries. Consequently, there is an urgent need to explore deeper into the factors influencing e-government acceptance, particularly within the context of developing nations.

The acceptance of e-government systems is important for their success, as it directly impacts the utilisation of e-government services by various stakeholders (Peng, Son, & Suseendran, 2019). Factors such as direct experience with technology and user involvement in systems development emerge as significant drivers of acceptance (Anas, Ibrahim, & Mohammed, 2020). However, the prevalence of low acceptance levels poses formidable challenges for governments and researchers alike, underscoring the importance of gaining a nuanced understanding of user behaviours and intentions.

Various theoretical models have been proposed to elucidate and forecast user acceptance of technology, encompassing frameworks such as the Diffusion of Innovations, Theory of Reasoned Action, Technology Acceptance Model (TAM), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Taherdoost, 2018). These models serve as valuable tools for understanding the determinants of user perceptions and attitudes towards e-government systems, thereby assisting policymakers in formulating effective implementation strategies.

Furthermore, the dichotomy between developing and developed nations significantly influences the adoption and progression of e-government initiatives (UNCTAD, 2020). Developed countries typically boast advanced ICT infrastructure and ample resources, enabling smoother implementation and operation of e-government systems. Conversely, developing nations often grapple with limited technological capabilities and resources, hindering the pace of e-government development. Bridging this digital divide necessitates concerted efforts to bolster ICT infrastructure and enhance capacity building in developing countries (UN, 2020).

Moreover, comprehending the intricacies of e-government acceptance and implementation in developing countries holds paramount importance for unlocking the potential benefits of digital governance. By tackling infrastructural barriers, enhancing user acceptance, and leveraging theoretical frameworks, governments can augment the efficacy and longevity of e-government initiatives. This study activities to explore deeper into these pertinent issues, shedding light on the multifaceted nature of e-government adoption across diverse socio-economic landscapes.

The adoption and acceptance of technology within organisational contexts have garnered considerable scholarly attention, with a myriad of theories and models posited to elucidate user behaviour. These theoretical frameworks furnish invaluable insights into the factors underpinning technology adoption and furnish a nuanced understanding of human-computer interaction dynamics. In this literature review, we scrutinize several prominent theories and models of technology acceptance, elucidating their pertinence to the aspect of e-government systems in developing countries, with a specific focus on Libya.

The Theory of Reasoned Action (TRA) is among the earliest models developed to elucidate technology acceptance and adoption, grounded in social psychology principles. TRA posits that

an individual's behaviour is shaped by their intention to engage in said behaviour, which, in turn, is influenced by their attitude toward the behaviour and subjective norms (Ajzen & Fishbein, 1980). In the context of e-government systems in Libya, understanding the prevailing attitudes and social norms regarding technology use is imperative for enhancing acceptance and adoption among both government employees and citizens. Given Libya's transitional state and evolving technological landscape, insights from TRA can inform strategies to promote positive attitudes towards e-government initiatives, thereby facilitating their integration into daily practices.

Building upon TRA, the Theory of Planned Behaviour (TPB) incorporates perceived behavioural control as an additional determinant of behaviour. TPB acknowledges that individuals may not always have complete control over their actions and considers situational factors that influence behaviour (Ajzen, 1991). In Libya, where infrastructure and resources for e-government may be limited, TPB provides valuable insights into the role of perceived control in shaping technology acceptance among stakeholders. By understanding and addressing perceived control barriers, policymakers can develop interventions tailored to mitigate challenges and enhance technology adoption rates across the country.

The Technology Acceptance Model (TAM) represents a further evolution of TRA, specifically tailored to explain individuals' acceptance of information technology. TAM posits that perceived usefulness and perceived ease of use are primary determinants of technology acceptance (Davis, 1989). In the Libyan context, where digital literacy levels vary and access to technology may be uneven, TAM offers valuable insights into users' perceptions of e-government systems. By assessing perceived usefulness and ease of use, policymakers can tailor e-government platforms to meet the specific needs and preferences of Libyan users, thereby enhancing overall acceptance and adoption rates.

Extending the TAM framework, researchers introduced the Extended Technology Acceptance Model (TAM2), which incorporates additional factors such as social influence and cognitive instrumental processes (Venkatesh & Davis, 2000). In Libya, where social dynamics may significantly influence technology adoption decisions, TAM2 offers valuable insights into the role of social norms and peer influence in shaping user behaviour. By understanding the social factors influencing technology acceptance, policymakers can design interventions that leverage existing social networks and community structures to promote e-government initiatives effectively.

In summary, theoretical frameworks such as TRA, TPB, TAM, and TAM2 provide valuable insights into the complexities of technology acceptance and adoption, particularly within the context of e-government systems in Libya. By understanding the attitudes, perceptions, and social dynamics surrounding technology use, policymakers can develop targeted strategies to promote e-government acceptance and enhance digital transformation across the country. Through a nuanced

understanding of these theoretical models and their application in the Libyan context, stakeholders can work towards building a more inclusive, efficient, and responsive e-government ecosystem.

The Diffusion of Innovation Theory (DOI) offers a comprehensive framework for understanding the spread and adoption of new technologies within a social system. DOI identifies critical factors influencing the rate of technology diffusion, including the attributes of the innovation itself, the innovation-decision process, and the characteristics of adopters (Rogers, 2003). In Libya, where the adoption of e-government systems may encounter resistance or skepticism, DOI provides a valuable perspective for policymakers to assess barriers and facilitators to technology adoption among government agencies and citizens. By understanding the innovativeness of e-government initiatives, the decision-making process surrounding their implementation, and the characteristics of potential adopters, Libyan authorities can tailor their strategies to promote greater acceptance and utilisation of e-government platforms.

The Social Cognitive Theory (SCT), rooted in social learning theory, emphasizes the role of cognitive processes in shaping behaviour. SCT posits that individuals learn from observing others, and their behaviour is influenced by both internal cognitive factors and external social cues (Bandura, 1986). In Libya, where cultural norms and social networks exert significant influence over attitudes toward technology, SCT offers valuable insights into the mechanisms through which social influence affects technology acceptance and adoption. By understanding how individuals' perceptions of self-efficacy, outcome expectations, and observational learning influence their willingness to adopt e-government systems, policymakers can design targeted interventions to enhance technology acceptance among diverse segments of Libyan society.

Moreover, the theories and models of technology acceptance reviewed in this section provide valuable frameworks for understanding the complexities of e-government adoption in developing countries like Libya. By applying these theories to the Libyan context, policymakers and researchers can identify key determinants of technology acceptance and design interventions tailored to the unique socio-cultural and infrastructural challenges facing the country. By incorporating insights from DOI, SCT, and other relevant theories, Libyan authorities can develop more effective strategies to promote the widespread adoption of e-government initiatives, thereby advancing governance transparency, efficiency, and citizen engagement across the nation.

In response to the challenges faced by researchers in selecting from multiple models to explain technology acceptance, Venkatesh et al. (2003) sought to establish a common framework that integrates constructs from various existing models. They conducted a comprehensive review of eight common models, including TRA, TPB, TAM, DOI, SCT, MM, MPCU, and combined TAM-TPB, to identify core constructs relevant to technology acceptance. The Unified Theory of Acceptance and Usage of Technology (UTAUT) framework proposed by Venkatesh et al. (2003) aimed to address limitations observed in previous models by providing a more comprehensive

understanding of technology acceptance. Five key limitations were identified, including the focus on simple technologies, participant demographics, measurement timing, cross-sectional measurements, and generalizability to mandatory settings. To overcome these limitations, the authors conducted empirical studies across four organisations where new technologies were introduced, measuring usage behaviour at various time intervals and considering moderating variables.

The UTAUT framework extended the original constructs of TRA, TAM, MM, TPB, TAM-TPB, MPCU, DIT, and SCT to develop a unified model that explained behavioural intention (BI) to use new technology. Through empirical validation, seven out of eight model constructs were found to significantly influence usage intention, with four constructs having a direct and significant impact on both BI and actual use. Additionally, moderators such as experience, gender, age, and voluntariness of use were found to influence the relationship between constructs and technology acceptance.

Subsequently, the UTAUT framework was further refined into UTAUT2 by Venkatesh, Thong, and Xu (2012), incorporating three new constructs: habit (HAB), hedonic motivation (HM), and price value (PV). UTAUT2 achieved improved explanatory power, explaining 74% of the variance in behavioural intention and 52% in technology use. This enhancement was attributed to the inclusion of additional constructs and the consideration of moderators such as age, experience, and gender.

The adoption of UTAUT2 in empirical studies has been limited, despite its theoretical soundness and comprehensive review of major theories related to IT acceptance. UTAUT2 offers several advantages, including its strong theoretical foundation, high explanatory power, and the inclusion of new variables that enhance its predictive capabilities. Its prevalence in recent studies across various fields underscores its robustness and utility in understanding technology acceptance and adoption.

In the context of e-government adoption in Libya, where understanding user acceptance is crucial for successful implementation, UTAUT2 offers a valuable framework for assessing technology acceptance and behavioural intent among government employees. By considering factors such as habit, hedonic motivation, and price value, UTAUT2 provides insights into the complex interplay of individual, social, and organisational factors influencing technology adoption. Utilising UTAUT2 in empirical studies can contribute to the development of effective strategies for promoting e-government adoption and enhancing government service delivery in Libya.

ANALYTICAL DISCUSSION

The findings from the literature review underscore the significance of the Unified Theory of Acceptance and Usage of Technology (UTAUT) and its extension, UTAUT2, in comprehending

technology acceptance and adoption dynamics. These frameworks amalgamate major theories and models related to IT acceptance, providing a robust theoretical basis for empirical studies across various domains.

One notable discovery is the enhanced explanatory power of UTAUT2, which elucidates 74% of the variance in behavioural intention and 52% in technology use. This indicates the superiority of UTAUT2 in elucidating and forecasting user behaviour compared to preceding models. The incorporation of novel constructs like habit, hedonic motivation, and price value enriches the model's predictive abilities, enabling researchers to explore deeper into the factors shaping technology acceptance.

Furthermore, the findings underscore the widespread citation and application of UTAUT and UTAUT2 in empirical investigations, affirming their relevance and adaptability across diverse contexts. These frameworks have been utilised to scrutinize technology acceptance across a spectrum of industries and sectors, including e-government, healthcare, education, and commerce.

Viewed from a Libyan perspective, the findings hold several implications for comprehending and enhancing technology acceptance in the milieu of e-government adoption. With the burgeoning digitalization of governmental services in Libya, understanding user acceptance stands important for the efficacious implementation of e-government initiatives. By leveraging the insights proffered by UTAUT2, policymakers and practitioners can devise targeted strategies to stimulate technology adoption among government personnel and citizens.

For instance, the identification of important determinants like habit, hedonic motivation, and price value can inform the blueprint and execution of e-government platforms and services. Accentuating the convenience, enjoyment, and affordability of utilising digital services can catalyze user engagement and acceptance. Furthermore, contemplating moderators such as age, gender, and experience can facilitate tailoring interventions to specific user cohorts, ensuring that e-government initiatives cater to the heterogeneous needs and preferences of Libyan users.

Moreover, the findings accentuate the import of empirical research in steering policy and practice. By conducting methodical studies employing validated frameworks like UTAUT2, researchers can engender evidence-driven insights that steer decision-making and resource allocation in e-government activities. This can culminate in more efficacious and sustainable solutions that elevate government service delivery and augment citizen satisfaction.

Additionally, the findings from the literature review underscore the pertinence and utility of UTAUT and UTAUT2 in decoding technology acceptance and adoption phenomena. By harnessing these frameworks, policymakers and practitioners in Libya can craft targeted strategies to propel e-government adoption and enhance government service delivery. Empirical research

underpinned by UTAUT2 can furnish invaluable insights that propel affirmative change and contribute to the digital metamorphosis of public services in Libya.

The literature review on the Unified Theory of Acceptance and Usage of Technology (UTAUT) and its extension, UTAUT2, significantly advances our comprehension of technology acceptance and adoption, particularly within the aspect of e-government initiatives. Through a synthesis of findings from diverse studies, this review furnishes invaluable insights into the determinants of user behaviour and their implications for enhancing technology acceptance, both in Libya and beyond.

One important contribution of this review lies in its elucidation of the major constructs encompassed within UTAUT and UTAUT2. By categorically discussing constructs such as perceived usefulness, perceived ease of use, habit, hedonic motivation, and price value, the review offers a comprehensive exposition of the theoretical bedrock underpinning these frameworks. This deepens our insight into the psychological, social, and economic factors shaping user attitudes and intentions towards technology adoption.

Moreover, the review underscores the empirical support substantiating the validity and reliability of UTAUT and UTAUT2 across varied contexts and demographic cohorts. By scrutinizing studies spanning diverse industries and sectors, including e-government, healthcare, education, and commerce, the review underscores the broad applicability of these frameworks in unraveling technology acceptance dynamics. This bolsters the generalizability of findings and facilitates the formulation of evidence-based strategies for propelling technology adoption.

From a Libyan vantage point, the review furnishes invaluable insights into the hurdles and prospects associated with e-government adoption in the nation. By synthesizing findings from akin contexts, policymakers and practitioners stand to glean pertinent lessons and best practices for crafting and executing e-government initiatives. This, in turn, can inform the formulation of bespoke strategies tailored to address the idiosyncratic needs and inclinations of Libyan users, ultimately culminating in more efficacious and sustainable outcomes.

Furthermore, the review accentuates the import of considering moderating factors like age, gender, and experience in apprehending technology acceptance. By acknowledging the heterogeneous attributes and backgrounds of users, policymakers and practitioners can fashion targeted interventions geared towards mitigating specific impediments and facilitating adoption. This enhances the promotion of inclusivity and equity in e-government services, ensuring that all strata of society can partake in and derive benefits from digital governmental initiatives.

Additionally, the review underscores the imperative of sustained research and assessment in the domain of technology acceptance. By pinpointing lacunae and avenues for future exploration, the

review galvanizes scholars and practitioners to undertake empirical inquiries that yield novel insights and erudition. This, in turn, can engender the refinement and evolution of theoretical frameworks like UTAUT and UTAUT2, further enriching our grasp of technology adoption mechanisms.

In essence, the literature review on UTAUT and UTAUT2 constitutes a seminal contribution to both theoretical comprehension and pragmatic application in the arena of technology acceptance. By synthesizing extant knowledge and delineating future research trajectories, the review serves as a invaluable compendium for policymakers, practitioners, and scholars executing to enhance technology adoption and usher in digital metamorphosis in Libya and beyond.

CONCLUSION AND IMPLICATIONS

In promoting technology acceptance and adoption, particularly within the context of e-government initiatives in Libya, it is imperative to tailor interventions to the unique needs and preferences of Libyan users. This entails conducting thorough assessments of the socio-cultural, economic, and infrastructural landscape to understand the contextual factors that may influence technology adoption. For instance, Libya's diverse cultural heritage and socio-economic disparities necessitate nuanced approaches to e-government implementation that account for regional variations and community-specific needs. Moreover, considering the country's historical and political context, interventions should be sensitive to local sensitivities and perceptions, ensuring that e-government initiatives are perceived as inclusive, transparent, and responsive to citizen needs. Furthermore, inclusive design principles should be embedded throughout the development and implementation of e-government services to ensure that they are accessible and usable by all citizens. This includes adhering to universal design standards and guidelines to accommodate diverse user abilities and preferences. For example, e-government portals should offer features such as text-to-speech functionality, keyboard navigation options, and adjustable font sizes to cater to users with visual or motor impairments. Additionally, multilingual support should be integrated into digital platforms to enable citizens from diverse linguistic backgrounds to access government services in their preferred language.

Adequate user training and support are essential components of successful technology adoption initiatives, particularly in contexts where digital literacy levels may vary. Policymakers and practitioners should invest in comprehensive training programs that equip citizens with the necessary skills and knowledge to navigate e-government platforms confidently. These training programs should be tailored to different user groups, taking into account factors such as age, education level, and prior experience with technology. Additionally, ongoing technical support mechanisms should be established to assist users in troubleshooting issues and addressing concerns related to e-government services.

Effective communication campaigns play an important role in shaping public perceptions and attitudes towards e-government initiatives. Policymakers should engage in targeted outreach efforts that highlight the benefits of e-government, emphasizing aspects such as convenience, efficiency, transparency, and improved access to essential services. Leveraging various communication channels, including social media, television, radio, and community outreach events, can help reach a diverse audience and enhance greater awareness and acceptance of digital government services.

Continuous evaluation and improvement of e-government initiatives are critical to ensure their effectiveness and relevance over time. Policymakers and practitioners should establish robust monitoring and evaluation mechanisms to track key performance indicators, user feedback, and usage patterns. This data-driven approach can help identify areas for improvement and guide iterative refinements to enhance user experience and satisfaction. Moreover, enhancing collaboration among stakeholders, including government agencies, academia, industry partners, and civil society organisations, is essential for driving innovation and knowledge sharing in the field of e-government in Libya. By leveraging the collective expertise and resources of diverse stakeholders, policymakers can accelerate progress towards achieving digital transformation goals and advancing technology acceptance in Libya.

By implementing the recommendations derived from the literature review, stakeholders in Libya can take proactive steps to address the challenges associated with technology acceptance and adoption, particularly in the aspect of e-government initiatives. These recommendations provide a roadmap for policymakers, practitioners, researchers, and other stakeholders to collaboratively navigate the complexities of promoting technology adoption in Libya's unique socio-economic and political context.

Firstly, policymakers play an important role in shaping the regulatory environment and setting the agenda for technology adoption. They should prioritize evidence-based policymaking informed by empirical research to ensure that policies and strategies align with the needs and preferences of Libyan users. By enhancing an enabling policy environment that emphasizes inclusivity, accessibility, and user-centered design, policymakers can create a conducive ecosystem for the successful implementation of e-government initiatives.

Practitioners, including government officials, IT professionals, and service providers, are responsible for the design, development, and delivery of e-government services. They should prioritize user-centric approaches that prioritize user engagement, usability testing, and continuous feedback mechanisms. Practitioners can leverage agile methodologies and user-centered design principles to iteratively refine e-government services based on user needs, preferences, and feedback. Furthermore, investing in user training and capacity-building programs can empower

government employees and citizens with the skills and knowledge needed to navigate and utilise e-government platforms effectively.

In addition to policy and practice, research plays a crucial role in advancing our understanding of technology acceptance and adoption in Libya. Researchers should conduct empirical studies that explore the socio-technical dynamics of e-government adoption, drawing on interdisciplinary theories and methodologies. Longitudinal studies and comparative analyses can provide valuable insights into the factors influencing technology adoption over time and across different demographic groups within Libya. By generating evidence-based insights, researchers can inform policymaking, guide practice, and contribute to the academic discourse on technology adoption in Libya and beyond.

Furthermore, the social and economic implications of promoting technology acceptance and adoption in Libya are significant. E-government initiatives have the potential to transform governance, improve service delivery, and empower citizens by enhancing access to information and public services. From a social perspective, e-government can promote inclusivity, transparency, and citizen engagement, enhancing a culture of digital citizenship and civic participation. Economically, e-government can stimulate innovation, entrepreneurship, and economic growth by creating new opportunities for digital entrepreneurship, job creation, and investment in digital infrastructure.

International collaboration and partnerships can also play a crucial role in supporting Libya's efforts to promote technology acceptance and adoption. By leveraging knowledge sharing, capacity building, and technical assistance from international organisations, donor agencies, and partner countries, Libya can accelerate its digital transformation agenda and overcome challenges related to capacity constraints and resource limitations.

In conclusion, promoting technology acceptance and adoption in Libya requires a coordinated and multi-stakeholder approach that encompasses policy, practice, research, and socio-economic development. By prioritizing evidence-based policymaking, user-centric design, empirical research, and international collaboration, Libya can harness the transformative power of e-government to improve governance, enhance service delivery, and empower citizens in the digital age. While this study provides valuable insights into technology acceptance and adoption, particularly in the context of e-government initiatives in Libya, it is crucial to recognize its limitations and identify areas for further research and expansion.

One significant limitation of this study is its potential lack of generalizability. The findings are based on a specific context, e-government adoption in Libya, and may not be directly applicable to other regions or countries with different socio-economic, cultural, and political landscapes.

Therefore, future research should aim to replicate these findings in diverse contexts to enhance their generalizability and applicability.

Another limitation lies in the methodological constraints inherent in the study design. Reliance on self-reported data and convenience sampling methods may introduce biases and limit the validity of the findings. To address this limitation, future research could employ more robust research designs, such as longitudinal studies and randomized controlled trials, to provide stronger evidence and mitigate potential biases. Resource constraints, including limited time, funding, and access to data and participants, may have also impacted the scope and depth of the study. Future research activities should seek to overcome these resource limitations by securing adequate funding, building research partnerships, and accessing larger and more diverse samples to ensure the robustness and reliability of the findings.

Moreover, while the study provides insights into the factors influencing technology acceptance and adoption in Libya, it may not fully capture the complex interplay of cultural, social, and contextual factors that shape user behaviour and decision-making processes. Future research should enhance to explore these factors more explicitly and examine their influence on technology adoption in greater detail.

In terms of future research directions, several avenues warrant exploration. Cross-cultural studies comparing technology acceptance across different cultural contexts can provide valuable insights into the universality versus specificity of technology acceptance theories and models. Longitudinal studies tracking technology adoption behaviours over time can offer a deeper understanding of the dynamics and evolution of technology acceptance, while qualitative research methods can provide rich, in-depth insights into users' perceptions, experiences, and motivations related to technology adoption. Furthermore, exploring the acceptance and adoption of emerging technologies, such as artificial intelligence, blockchain, and Internet of Things, in various domains and sectors can shed light on evolving trends and user preferences. Evaluating the effectiveness of policy interventions aimed at promoting technology acceptance and adoption is also critical for informing evidence-based policy-making and practice.

Lastly, research on the socio-economic impacts of technology adoption can help policymakers and practitioners understand the broader implications of technology adoption for individuals, organisations, and societies. By addressing these limitations and pursuing these future research directions, scholars can advance our understanding of technology acceptance and adoption and contribute to efforts to promote digital transformation and socio-economic development in Libya and beyond. As Libya progresses on its path towards digital transformation and modernization, understanding the intricacies of technology acceptance becomes increasingly vital. The adoption of information and communication technology (ICT) solutions, particularly within e-government initiatives, holds the promise of Revolutionising governance, enhancing service delivery, and

enhancing economic growth. However, the success of such activities hinges upon the willingness of individuals to embrace and utilise these technologies effectively. This study underscores the importance of considering a myriad of factors that influence technology acceptance and adoption. Cultural norms, societal expectations, economic constraints, and organisational dynamics all significantly shape user attitudes and behaviours towards technology. By acknowledging and addressing these factors, policymakers, practitioners, and stakeholders can devise more targeted and effective strategies to promote technology adoption and maximize its impact.

One crucial implication of our findings is the necessity for tailored interventions that account for Libya's unique context. While existing frameworks like UTAUT2 offer valuable insights into technology acceptance determinants, their relevance may vary across diverse cultural and socio-economic contexts. Hence, efforts to promote technology adoption in Libya should be grounded in a deep understanding of local norms, values, and preferences. Furthermore, enhancing collaboration among academia, government, industry, and civil society is essential for creating an ecosystem conducive to innovation, knowledge sharing, and capacity building in ICT. By leveraging the collective expertise and resources of these stakeholders, Libya can expedite its digital transformation agenda and harness technology's full potential for sustainable development.

In practical terms, our study provides several recommendations for policymakers and practitioners executing to promote technology adoption in Libya. These include investing in digital literacy programs, ensuring affordable access to technology infrastructure, and incentivizing the development and adoption of locally relevant ICT solutions. Additionally, efforts should be made to cultivate a culture of innovation and entrepreneurship, encouraging the emergence of homegrown solutions tailored to Libyan users' needs.

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