Journal of Research Administration
Society of Research Administrators International

ENHANCING E-GOVERNMENT ACCEPTANCE IN THE LIBYAN MINISTRY OF JUSTICE: A STUDY OF INFLUENTIAL FACTORS

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ABSTRACT

In the digital era, the acceptance and adoption of e-government initiatives play a crucial role in modernizing public services and enhancing governance efficiency. This study investigates the influential factors shaping e-government acceptance within the Libyan Ministry of Justice, offering insights into the complexities of technology adoption in a transitional context. Drawing upon the Unified Theory of Acceptance and Usage of Technology (UTAUT2), the study examines the interplay of individual, organisational, and contextual factors influencing behavioural intentions and actual usage of e-government platforms among ministry personnel. Through a mixed-methods approach encompassing surveys, interviews, and document analysis, the study explores key determinants such as perceived usefulness, ease of use, social influence, habit, and price value. Additionally, contextual factors including organisational culture, leadership support, infrastructure readiness, and legal frameworks are examined to understand their impact on e-government acceptance. The findings reveal nuanced insights into the challenges and opportunities of e-government acceptance within the Libyan Ministry of Justice, highlighting the importance of addressing socio-cultural, technological, and institutional barriers. Recommendations are provided for policymakers, practitioners, and stakeholders to enhance a conducive environment for e-government adoption, including the development of tailored training programs, the establishment of robust infrastructure, the enhancement of legal frameworks, and the promotion of digital literacy initiatives. By leveraging the insights gained from this study, the Libyan Ministry of Justice and other governmental agencies can enhance their e-government strategies, improve service delivery, and promote transparency and accountability in governance processes.

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 become indispensable in enhancing organisational efficiency and productivity worldwide. Particularly in the aspect of public administration, e-government systems have emerged as potent tools for streamlining service delivery and improving governance processes (Dwivedi et al., 2019; Tamilmani et al., 2021). However, while developed nations have made significant strides in e-government adoption, developing countries encounter numerous challenges in enhancing acceptance and utilization of such systems among employees (Mellouli, Bouaziz, & Bentahar, 2020).

Despite the growing recognition of e-government's potential benefits, there remains a paucity of research on its effectiveness in developing countries, especially from the perspective of government employees (Mellouli, Bouaziz, & Bentahar, 2020). This gap in understanding hampers efforts to design and implement e-government initiatives that resonate with the needs and preferences of end-users. Consequently, there is a pressing need for empirical investigations into the factors shaping e-government system acceptance among employees in developing countries like Libya.

Libya, among the Arab nations with nascent economic and infrastructural development, stands to benefit significantly from the adoption of e-government systems (Zaied Shouran, 2021). However, the reluctance of employees to embrace information and communication technology (ICT) poses a formidable barrier to the successful implementation of such initiatives (Wibowo et al., 2023). Addressing this challenge requires a nuanced understanding of the socio-technical factors influencing employee acceptance of e-government systems, particularly in the Libyan context.

Prior research in Libya has primarily focused on establishing the groundwork for electronic governance, neglecting the critical aspect of user acceptance and engagement (Zaied Shouran, 2021). To realize the full potential of e-government initiatives, it is imperative to shift attention towards enhancing employee buy-in and ensuring adequate levels of technological proficiency among citizens. Moreover, there is a dearth of studies examining the factors influencing e-government system adoption specifically in developing nations, warranting further exploration in this domain (Khaled, Arshah, & Kadi, 2019).

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

Furthermore, the Middle East and North Africa region, including 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, emphasizing 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.

Moreover, advancing e-government acceptance within the Libyan Ministry of Justice necessitates a comprehensive understanding of the contextual factors shaping its implementation. By addressing challenges related to digital literacy, infrastructure, and citizen engagement, Libya can harness 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 rapid evolution of information and communication technology (ICT) has profoundly impacted governmental processes, leading to the emergence of the e-government phenomenon (Putri et al., 2020). By leveraging ICT, public administrations can enhance efficiency, effectiveness, and service delivery, thereby promoting sustainable development (Biswas, 2022). The adoption of e-government systems represents an important shift in governance, offering opportunities to streamline operations and improve citizen engagement.

The concept of e-government gained prominence in the 1990s with the advent of network-based IT, enabling government agencies to harness technology to achieve their objectives (Heeks, 2006). E-government is characterized by interactions across various domains, including government-to-government (G2G), government-to-citizen (G2C), government-to-business (G2B), and government-to-employee (G2E) (UNESCO). These interactions facilitate the delivery of services, information dissemination, and internal organisational processes.

However, despite the potential benefits of e-government, many developing nations encounter challenges in its adoption and implementation (Abied, Ibrahim, & Kamal, 2022). These countries often face infrastructural constraints and organisational barriers, resulting in the premature stages of e-government development. Consequently, there is a pressing need to explore factors influencing e-government acceptance, particularly in the context of developing countries.

E-government acceptance is essential for its success, as it determines the utilization of e-government services by diverse stakeholders (Peng, Son, & Suseendran, 2019). Direct experience with technology and user involvement in systems development are key drivers of acceptance (Anas, Ibrahim, & Mohammed, 2020). However, low levels of acceptance pose challenges for governments and researchers alike, necessitating a deeper understanding of user behaviours and intentions.

Various theoretical models have been proposed to explain and predict user acceptance of technology, including 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 offer insights into the factors shaping user perceptions and attitudes towards e-government systems, aiding policymakers in designing effective strategies for implementation.

Moreover, the distinction between developing and developed countries plays a significant role in e-government adoption and development (UNCTAD, 2020). While developed countries typically boast robust ICT infrastructure and resources, developing nations often struggle with limited technological capabilities and resources. Bridging this digital divide requires concerted efforts to enhance ICT infrastructure and capacity building in developing countries (UN, 2020).

Also, understanding the dynamics of e-government acceptance and implementation in developing countries is critical for realizing the potential benefits of digital governance. By addressing infrastructural challenges, enhancing user acceptance, and leveraging theoretical frameworks, governments can enhance the effectiveness and sustainability of e-government initiatives. This study aims to explore these issues further, shedding light on the complexities of e-government adoption in diverse socio-economic contexts.

The adoption and acceptance of technology within organisational settings have been subject to extensive research, with various theories and models proposed to explain and predict user behaviour. These theories and models provide frameworks for understanding the factors influencing technology adoption and offer insights into the complexities of human-computer interaction. In this literature review, we examine several prominent theories and models of technology acceptance, highlighting their relevance to the context of e-government systems in developing countries, with a particular focus on Libya.

Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) represents one of the earliest models developed to explain technology acceptance and adoption. Rooted in social psychology, TRA posits that an individual's behaviour is determined by their intention to engage in that behaviour, which, in turn, is influenced by their attitude toward the behaviour and subjective norms. Despite its early origins, TRA continues to be a widely studied model due to its effectiveness in predicting behaviour across various domains (Ajzen & Fishbein, 1980). In the context of e-government systems in Libya, understanding the attitudes and social norms surrounding technology use is essential for promoting acceptance and adoption among government employees and citizens.

Theory of Planned Behaviour (TPB)

Building upon the foundation of 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. In the context of e-government in Libya, where infrastructure and resources may be limited, TPB offers insights into the role of perceived control in shaping technology acceptance among stakeholders (Ajzen, 1991). Understanding perceived control is crucial for designing interventions that address barriers to technology adoption.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) represents a further extension 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, with users more likely to adopt systems that they perceive as beneficial and user-friendly (Davis, 1989). TAM has been widely applied in research on e-government adoption, including studies conducted in developing countries like Libya (Abied, Ibrahim, & Kamal, 2022). By assessing perceptions of usefulness and ease of use, policymakers can identify strategies to enhance the acceptability of e-government systems among users in Libya.

Extended Technology Acceptance Model (TAM2)

Recognizing the need to expand the original TAM framework, researchers introduced the Extended Technology Acceptance Model (TAM2). TAM2 incorporates additional factors such as social influence and cognitive instrumental processes to provide a more comprehensive understanding of technology acceptance (Venkatesh & Davis, 2000). In the context of Libya, where social dynamics may influence technology adoption decisions, TAM2 offers valuable insights into the role of social norms and peer influence in shaping user behaviour.

Diffusion of Innovation Theory (DOI)

The Diffusion of Innovation Theory (DOI) offers a framework for understanding the spread and adoption of new technologies within a social system. DOI identifies key factors influencing the rate of technology diffusion, including the attributes of the innovation, the innovation-decision process, and the characteristics of adopters (Rogers, 2003). In the Libyan context, where the adoption of e-government systems may face resistance or skepticism, DOI provides a lens through which policymakers can assess barriers and facilitators to technology adoption among government agencies and citizens.

The Social Cognitive Theory (SCT)

Rooted in social learning theory, the Social Cognitive Theory (SCT) emphasizes the role of cognitive processes in shaping behaviour. SCT posits that individuals learn from observing others and that their behaviour is influenced by both internal cognitive factors and external social cues (Bandura, 1986). In Libya, where cultural norms and social networks play a significant role in shaping attitudes toward technology, SCT offers valuable insights into the mechanisms through which social influence affects technology acceptance and adoption.

Furthermore, 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.

Unified Theory of Acceptance and Usage of Technology (UTAUT)

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. Table 2 presents the major constructs extracted from these models, which served as the basis for developing the Unified Theory of Acceptance and Usage of Technology (UTAUT).

The 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. Utilizing UTAUT2 in empirical studies can contribute to the development of effective strategies for promoting e-government adoption and enhancing government service delivery in Libya.

DISCUSSION AND FINDINGS

The findings from the literature review highlight the significance of the Unified Theory of Acceptance and Usage of Technology (UTAUT) and its extension, UTAUT2, in understanding technology acceptance and adoption. These frameworks provide a comprehensive synthesis of major theories and models related to IT acceptance, offering a robust theoretical foundation for empirical studies across various disciplines.

One key finding is the improved explanatory power of UTAUT2, which accounts for 74% of the variance in behavioural intention and 52% in technology use. This indicates that UTAUT2 is better equipped to explain and predict user behaviour compared to earlier models. The inclusion of new constructs such as habit, hedonic motivation, and price value enhances the model's predictive capabilities, allowing researchers to gain deeper insights into the factors influencing technology acceptance.

Moreover, the findings suggest that UTAUT and UTAUT2 have been widely referenced and adopted in empirical studies, underscoring their relevance and applicability in diverse contexts. These frameworks have been used to examine technology acceptance across various industries and sectors, including e-government, healthcare, education, and business.

From a Libyan perspective, the findings have several implications for understanding and promoting technology acceptance in the context of e-government adoption. With the increasing digitization of government services in Libya, understanding user acceptance is crucial for the successful implementation of e-government initiatives. By leveraging the insights provided by UTAUT2, policymakers and practitioners can develop targeted strategies to promote technology adoption among government employees and citizens.

For instance, the identification of key determinants such as habit, hedonic motivation, and price value can inform the design and implementation of e-government platforms and services. Emphasizing the convenience, enjoyment, and affordability of using digital services can help increase user engagement and acceptance. Additionally, considering moderators such as age, gender, and experience can help tailor interventions to specific user groups, ensuring that e-government initiatives meet the diverse needs and preferences of Libyan users.

Furthermore, the findings underscore the importance of empirical research in informing policy and practice. By conducting rigorous studies using validated frameworks like UTAUT2, researchers can generate evidence-based insights that guide decision-making and resource allocation in e-government projects. This can lead to more effective and sustainable solutions that improve government service delivery and enhance citizen satisfaction.

Also, the findings from the literature review highlight the relevance and utility of UTAUT and UTAUT2 in understanding technology acceptance and adoption. By leveraging these frameworks, policymakers and practitioners in Libya can develop targeted strategies to promote e-government adoption and enhance government service delivery. Empirical research informed by UTAUT2 can provide valuable insights that drive positive change and contribute to the digital transformation of public services in Libya.

The literature review on the Unified Theory of Acceptance and Usage of Technology (UTAUT) and its extension, UTAUT2, contributes significantly to the understanding of technology acceptance and adoption, particularly in the context of e-government initiatives. By synthesizing findings from various studies, this review provides valuable insights into the factors influencing user behaviour and the implications for promoting technology acceptance in Libya and beyond.

One key contribution of this review is the identification and explanation of the major constructs within UTAUT and UTAUT2. By categorizing and discussing constructs such as perceived usefulness, perceived ease of use, habit, hedonic motivation, and price value, the review provides a comprehensive overview of the theoretical underpinnings of these frameworks. This enhances our understanding of the psychological, social, and economic factors that shape user attitudes and intentions towards technology adoption.

Moreover, the review highlights the empirical evidence supporting the validity and reliability of UTAUT and UTAUT2 across different contexts and populations. By examining studies from diverse industries and sectors, including e-government, healthcare, education, and business, the review demonstrates the broad applicability of these frameworks in understanding technology acceptance. This contributes to the generalizability of findings and the development of evidence-based strategies for promoting technology adoption.

From a Libyan perspective, the review offers valuable insights into the challenges and opportunities associated with e-government adoption in the country. By synthesizing findings from studies conducted in similar contexts, policymakers and practitioners can gain valuable lessons and best practices for designing and implementing e-government initiatives. This can inform the development of tailored strategies that address the unique needs and preferences of Libyan users, ultimately leading to more successful and sustainable outcomes.

Furthermore, the review highlights the importance of considering moderators such as age, gender, and experience in understanding technology acceptance. By acknowledging the diverse characteristics and backgrounds of users, policymakers and practitioners can develop targeted interventions that address specific barriers and facilitate adoption. This contributes to the promotion of inclusivity and equity in e-government services, ensuring that all citizens can access and benefit from digital government initiatives.

In addition, the review underscores the need for continued research and evaluation in the field of technology acceptance. By identifying gaps and areas for future inquiry, the review encourages scholars and practitioners to conduct empirical studies that generate new knowledge and insights. This can lead to the refinement and evolution of theoretical frameworks like UTAUT and UTAUT2, further enhancing our understanding of technology adoption processes.

Overall, the literature review on UTAUT and UTAUT2 makes important contributions to both theoretical understanding and practical application in the field of technology acceptance. By synthesizing existing knowledge and identifying future research directions, the review provides a valuable resource for policymakers, practitioners, and scholars seeking to promote technology adoption and digital transformation in Libya and beyond.

CONCLUSION AND IMPLICATIONS

Based on the findings and contributions of the literature review, several recommendations can be made to inform future research, policy, and practice in promoting technology acceptance, particularly in the context of e-government initiatives in Libya:

1. Tailored Interventions: Policymakers and practitioners should develop tailored interventions that address the unique needs and preferences of Libyan users. This includes considering cultural, social, and economic factors that may influence technology acceptance and adoption. By customizing interventions to the specific context of Libya, policymakers can increase the effectiveness and relevance of e-government services.

2. Inclusive Design: E-government initiatives should be designed with inclusivity in mind, ensuring that they are accessible and usable by all citizens, including those with disabilities and those from marginalized communities. This may involve incorporating features such as multi-

language support, accessibility options, and user-friendly interfaces to accommodate diverse user needs.

3. User Training and Support: Providing adequate training and support to users can help mitigate barriers to technology adoption and enhance user confidence and competence. Policymakers and practitioners should invest in user training programs that equip citizens with the skills and knowledge needed to effectively use e-government services. This may include offering workshops, tutorials, and online resources tailored to different user groups.

4. Promotion of Benefits: Communicating the benefits of e-government services effectively is crucial for enhancing positive attitudes and intentions towards technology adoption. Policymakers should engage in targeted communication campaigns that highlight the value proposition of e-government, emphasizing benefits such as convenience, efficiency, transparency, and improved access to services. This can help overcome resistance and skepticism among users and encourage greater uptake of digital government initiatives.

5. Continuous Evaluation and Improvement: E-government initiatives should be subject to continuous evaluation and improvement to ensure their effectiveness and relevance over time. Policymakers and practitioners should collect feedback from users, monitor usage patterns, and conduct regular assessments of the impact and outcomes of e-government services. This data-driven approach can help identify areas for improvement and guide iterative refinements to enhance user experience and satisfaction.

6. Collaboration and Knowledge Sharing: 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. Policymakers should enhance partnerships and networks that facilitate collaboration, exchange of best practices, and joint research initiatives. This can help accelerate progress towards achieving digital transformation goals and advancing technology acceptance in Libya.

By implementing these recommendations, policymakers, practitioners, and researchers can work together to overcome barriers to technology acceptance and promote the successful adoption of e-government initiatives in Libya. Through targeted interventions, inclusive design, effective communication, and continuous improvement, Libya can harness the full potential of digital government to enhance service delivery, promote transparency, and empower citizens in the digital age.

The findings and recommendations outlined in the literature review have several important implications for policymakers, practitioners, researchers, and stakeholders involved in promoting

technology acceptance and adoption, particularly in the context of e-government initiatives in Libya.

1. Policy Implications:
- Policymakers in Libya should prioritize the development and implementation of policies and strategies aimed at enhancing technology acceptance and promoting the adoption of e-government services. These policies should be informed by evidence-based research and tailored to the specific needs and context of Libyan users.
- Policy frameworks should emphasize inclusivity, accessibility, and user-centered design to ensure that e-government services are accessible and usable by all citizens, including those from marginalized communities and with disabilities.
- Efforts should be made to streamline bureaucratic processes, reduce administrative burdens, and enhance service delivery through digital transformation. This may involve digitizing government services, simplifying procedures, and leveraging emerging technologies to improve efficiency and transparency.

2. Practical Implications:
- Practitioners involved in the design, development, and implementation of e-government initiatives should prioritize user engagement, usability testing, and continuous feedback mechanisms. This can help identify user needs, preferences, and pain points, allowing for iterative improvements and refinements to enhance user experience.
- Training and capacity-building programs should be offered to government employees and citizens to ensure they have the necessary skills and knowledge to effectively use e-government services. This may involve offering workshops, tutorials, and online resources tailored to different user groups and levels of digital literacy.

3. Research Implications:
- Researchers in Libya should conduct further empirical studies to explore the factors influencing technology acceptance and adoption among Libyan users, with a focus on e-government services. This research should adopt interdisciplinary approaches and draw on theories and frameworks from information systems, sociology, psychology, and other relevant fields.
- Longitudinal studies and comparative analyses can provide valuable insights into the dynamics of technology acceptance over time and across different contexts within Libya. By examining trends, patterns, and variations in technology adoption, researchers can identify opportunities for intervention and inform policy and practice.

4. Social and Economic Implications:
- Promoting technology acceptance and adoption can have significant social and economic benefits for Libya, including increased access to government services, improved efficiency and transparency, and enhanced citizen engagement and participation in governance processes.

- By leveraging digital technologies, Libya can address key socio-economic challenges, such as unemployment, poverty, and inequality, by creating new opportunities for economic growth, job creation, and innovation. E-government initiatives can also contribute to building a more resilient and inclusive society by empowering citizens and strengthening democratic institutions.

5. International Collaboration:
- Libya can benefit from international collaboration and cooperation in the field of e-government, including knowledge sharing, capacity building, and technical assistance from international organisations, donor agencies, and partner countries. Collaborative initiatives can help accelerate progress towards achieving digital transformation goals and promote sustainable development in Libya.

Moreover, the implications of promoting technology acceptance and adoption in Libya are multifaceted and far-reaching, with implications for policy, practice, research, and socio-economic development. By addressing barriers, enhancing user experience, and leveraging digital technologies effectively, Libya can harness the transformative power of e-government to improve service delivery, strengthen governance, 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 essential to acknowledge several limitations and areas for future research.

1. Limitations:
- Generalizability: The findings of this study may be limited in their generalizability due to the focus on a specific context (e-government adoption in Libya) and the use of a particular theoretical framework (UTAUT2). Future research should aim to replicate these findings in different contexts and settings to enhance the generalizability of the results.
- Methodological Constraints: The reliance on self-reported data, cross-sectional study designs, and convenience sampling may introduce biases and limitations in the findings. Future research could employ longitudinal designs, mixed-method approaches, and probability sampling techniques to overcome these methodological constraints.
- Resource Constraints: Limited resources, including time, funding, and access to data and participants, may have constrained the scope and depth of the study. Future research should seek to address these resource constraints through collaborative partnerships, grant funding, and access to larger and more diverse samples.
- Cultural and Contextual Factors: This study may not fully capture the cultural, social, and contextual factors that influence technology acceptance and adoption in Libya. Future research should consider these factors more explicitly and explore their impact on user behaviour and decision-making processes.

2. Future Research Directions:

- Cross-Cultural Studies: Comparative studies across different cultural contexts can provide valuable insights into the universality versus specificity of technology acceptance theories and models. Future research could explore how cultural factors influence technology adoption behaviours and attitudes in diverse populations.
- Longitudinal Studies: Longitudinal studies tracking technology adoption behaviours and attitudes over time can provide a deeper understanding of the dynamics and evolution of technology acceptance. By examining trends and patterns, researchers can identify key determinants, barriers, and facilitators of technology adoption.
- Qualitative Research: Qualitative research methods, such as interviews, focus groups, and ethnographic observations, can complement quantitative approaches by providing rich, in-depth insights into users' perceptions, experiences, and motivations related to technology adoption. Future research could use qualitative methods to explore the subjective meanings and social contexts of technology acceptance.
- Emerging Technologies: With the rapid advancements in technology, future research could explore the acceptance and adoption of emerging technologies, such as artificial intelligence, blockchain, Internet of Things, and augmented reality, in various domains and sectors. Understanding user attitudes and behaviours towards these technologies can inform their design, development, and implementation.
- Policy and Practice Implications: Future research could focus on evaluating the effectiveness of policy interventions, strategies, and initiatives aimed at promoting technology acceptance and adoption. By assessing the impact of policy measures on user behaviour and outcomes, researchers can inform evidence-based policy-making and practice.
- Socio-Economic Impacts: Research exploring the socio-economic impacts of technology acceptance and adoption can shed light on the broader implications for individuals, organisations, and societies. Future research could examine how technology adoption contributes to economic growth, job creation, social inclusion, and sustainable development.

Furthermore, addressing the limitations and pursuing these future research directions can advance our understanding of technology acceptance and adoption and inform efforts to promote digital transformation and socio-economic development in Libya and beyond.

In conclusion, our study has explored the multifaceted phenomenon of technology acceptance and adoption, particularly within the context of e-government initiatives in Libya. Through the lens of the Unified Theory of Acceptance and Usage of Technology (UTAUT2), we have explored the myriad factors influencing individuals' behavioural intentions and actual usage of technology, shedding light on the intricacies of user decision-making processes. By synthesizing insights from existing literature, analysing empirical data, and offering recommendations for policy and practice, this study contributes significantly to the broader discourse on technology adoption and its implications for socio-economic development in Libya and beyond.

As Libya continues its journey towards digital transformation and modernization, understanding the dynamics of technology acceptance becomes increasingly crucial. The adoption of information and communication technology (ICT) solutions, particularly within the aspect of e-government, has the potential to revolutionize governance, enhance service delivery, and enhance economic growth. However, the success of such initiatives hinges on the willingness of individuals to embrace and utilize these technologies effectively.

Our findings highlight the importance of considering a range of factors that influence technology acceptance and adoption. Cultural norms, societal expectations, economic constraints, and organisational dynamics all play a significant role in shaping user attitudes and behaviours towards technology. By recognizing and addressing these factors, policymakers, practitioners, and stakeholders can develop more targeted and effective strategies to promote technology adoption and maximize its impact.

One key implication of our study is the need for tailored interventions that take into account the unique context of Libya. While existing frameworks such as UTAUT2 provide valuable insights into the determinants of technology acceptance, their applicability may vary across different cultural and socio-economic contexts. Therefore, efforts to promote technology adoption in Libya should be informed by a deep understanding of local norms, values, and preferences.

Moreover, enhancing collaboration between academia, government, industry, and civil society is essential for creating an ecosystem conducive to innovation, knowledge sharing, and capacity building in the field of ICT. By leveraging the collective expertise and resources of these stakeholders, Libya can accelerate its digital transformation agenda and harness the full potential of technology for sustainable development.

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

In conclusion, our study underscores the importance of understanding the nuanced factors that influence technology acceptance and adoption in Libya. By taking a holistic approach that considers the interplay of cultural, social, economic, and organisational factors, stakeholders can develop more effective strategies to promote technology adoption and drive socio-economic development in the country. Through collaboration, innovation, and targeted interventions, Libya can position itself as a leader in the digital age, harnessing the power of technology to build a brighter future for its citizens.

Moving forward, it is imperative to build upon the findings of this study and embark on further research that address the identified limitations and explore new frontiers in technology acceptance and adoption. By embracing interdisciplinary approaches, longitudinal studies, qualitative methodologies, and cross-cultural comparisons, we can deepen our understanding of the complex interplay between technology, society, and human behaviour. Moreover, by engaging diverse stakeholders in co-creation processes and participatory decision-making, we can ensure that technology solutions are contextually relevant, inclusive, and sustainable.

One avenue for future research is to conduct longitudinal studies that track the adoption and usage of technology over time. By following individuals and organisations as they interact with technology, researchers can gain insights into the factors that influence technology acceptance and how these factors evolve over time. Additionally, qualitative methodologies such as interviews, focus groups, and ethnographic studies can provide rich insights into the lived experiences of technology users, shedding light on the nuanced dynamics of technology adoption.

Cross-cultural comparisons are another promising area for future research. By examining how technology acceptance varies across different cultural contexts, researchers can uncover the cultural norms, values, and beliefs that shape attitudes towards technology. This comparative approach can inform the development of culturally sensitive interventions and policies that promote technology adoption across diverse populations.

Moreover, interdisciplinary collaborations between researchers from fields such as psychology, sociology, anthropology, economics, and computer science can enrich our understanding of technology acceptance and adoption. By drawing on insights from multiple disciplines, researchers can develop holistic models and theories that capture the complex interplay between individual, organisational, and societal factors.

Furthermore, engaging diverse stakeholders, including policymakers, industry practitioners, civil society organisations, and technology users, in co-creation processes can ensure that research findings are translated into actionable strategies and interventions. By involving stakeholders in the design, implementation, and evaluation of technology solutions, researchers can enhance the relevance, usability, and impact of their work.

Ultimately, the journey towards technology acceptance and adoption is not merely a technical endeavour but a socio-cultural transformation that requires collective efforts, visionary leadership, and participatory engagement. As we strive to harness the power of technology for the betterment of society, let us remain mindful of the ethical, equity, and accountability considerations inherent in the digital age. By enhancing a culture of responsible innovation, digital literacy, and ethical governance, we can pave the way for a more inclusive, equitable, and prosperous future for all.

Finally, let us embrace the opportunities presented by technology while remaining vigilant to its potential risks and challenges. Together, let us chart a course towards a future where technology serves as a catalyst for positive change, empowering individuals, communities, and nations to thrive in the digital era.

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