Exploring TAMM's Digital Transformation in Abu Dhabi

https://doi.org/10.63962/JLLU6867

Hessa Banihammad
College of Business and Economics
United Arab Emirates University (UAEU)
Al Ain-UAE
700048710@uaeu.ac.ae

Amal AL Hammadi
College of Business and Economics
United Arab Emirates University (UAEU)
Al Ain-UAE
700046897@uaeu.ac.ae

Ayesha Aldarmaki
College of Business and Economics
United Arab Emirates University (UAEU)
Al Ain-UAE
700048624@uaeu.ac.ae

Fatma Abdelhamid
College of Business and Economics
United Arab Emirates University (UAEU)
Al Ain-UAE
201850088@uaeu.ac.ae

Ananth Chiravuri
College of Business and Economics
United Arab Emirates University (UAEU)
Al Ain-UAE
ananth.chiravuri@uaeu.ac.ae

***Abstract*—Government services worldwide are adopting digital transformation solutions which are reshaping digital services through improved efficiency, accessibility and user satisfaction. This study investigates the impact of TAMM, the consolidated digital platform of Abu Dhabi, on such parameters as mentioned above. A survey was conducted to collect responses about users' perceptions of TAMM's efficiency. Initial findings suggest that TAMM is successful in reducing bureaucratic inefficiencies, speeding up governmental transactions, and enhancing citizen confidence in digital services. Findings from this research contribute to the literature on digital transformation by offering empirical insights regarding digital services platforms and service optimization.**

Keywords—component, formatting, style, styling, insert *(key words)*

I. Introduction

As countries aim to improve efficiency, accessibility, and service quality through technological advancements, the digital transformation of government services has become a global priority. In response to the swift digitalization of economies, governments around the globe are revamping their service delivery models, utilizing automation, data analytics, and artificial intelligence to make administrative processes more efficient. Digital Transformation in the public sector aims to reduce bureaucracy, reduce physical visits and enhance customer engagement. Abu Dhabi and the UAE have taken a leading role in this transition by launching e-government strategies. TAMM is a centralized digital platform which integrates over 900 governmental services in a unified ecosystem which allows citizens to access government services more efficiently.

Despite the widespread of digital government platforms, there is a current limitation in research investigating user perception of these digital platforms. Most of the existing research focuses on technology adoption, policy frameworks and challenges with implementing digital transformation, rather than assessing the effects of digital platforms such as TAMM on service automation, user satisfaction, and operational efficiency. Despite the fact that previous research emphasized on the effective methods for digital transformation, there is a lack of empirical evidence regarding users' perceptions and utilization of these digital platforms [1]. Thus, findings from our study aim to fill the gap by providing evidence-based insights into how effective TAMM is as a digital transformation initiative in Abu Dhabi through analyzing user perceptions and assessing statistical trends. This forms the objective of our study and our research question which is to understand user perspective, engagement, trust and accessibility when using digital platforms like TAMM. Results from our study should help policy makers understand and assess the acceptance of digital government in Abu Dhabi.

The rest of the paper is as follows: In Section 2, we review the relevant papers as part of the Literature review. Following this, we will present our hypotheses in Section 3. Section 4 will look at the methodology. This is followed by our initial findings in Section 5 and finally we conclude our paper in Section 6.

II. Background and Literature Review

Digital transformation of public services is a global trend that seeks to improve accessibility, efficiency, and user involvement. Governments around the globe are utilizing technology to simplify bureaucratic procedures and improve

service provision. The TAMM platform in Abu Dhabi exemplifies this shift by offering a centralized hub for digital government services. This literature review examines previous research on digital transformation within the public sector, automation, AI integration, and associated challenges, providing context for TAMM's impact on process automation, service delivery, and service quality.

Digital Transformation in government services requires AI, big data and automation to enhance workflows [2]. Studies show that the success of government digitalization depends on its alignment with national strategic initiatives, such as the UAE's AI and blockchain strategies [2].

According to a study [3], in Kuwait, mobile-optimized government services are preferred by the public. Their study emphasizes three vital stages of digital transformation: digitization, digitalization, and comprehensive transformation. The phases can serve as a basis for assessing TAMM's development. Research has shown that government automation significantly reduces administrative burden and improves efficiency and eliminates errors [4].

Previous studies also indicate that government automation through digital platforms can reduce administrative burden and enhances efficiency while eliminating errors [4]. Additionally, Straub et al. [5] suggest a framework aimed at evaluating the operational robustness and normative significance of AI-driven automation within the public sector. Their research emphasizes that AI can take on repetitive bureaucratic tasks with effectiveness, leading to enhancements in the speed and accuracy of service delivery. The authors estimate that 84% of transactions conducted by the UK government could be automated, which could lead to annual savings of more than 1,200 person-years of work. In line with this global tendency, the TAMM platform—automating a range of public service transactions—demonstrates Abu Dhabi's dedication to developing into a digital government.

In addition, user perceptions and behavioral factors have a significant impact on how effective digital government platform. For example, [2] employed the Unified Theory of Acceptance and Use of Technology (UTAUT) and found that service reliability, social influence, and ease of use are critical factors influencing public adoption.

In a similar sense, [6] investigated AI-enabled public services through a social contract lens in their paper, highlighting the importance of transparency, human oversight, and trust. These findings indicate that in order for TAMM to bolster citizen engagement, service design should place a premium on transparency and usability.

To sum up, the examined studies apply quantitative surveys, literature reviews, and conceptual models. Finally, service efficiency was assessed by a study that surveyed 378 users of digital services [3] wherein technology adoption was assessed using UTAUT and Diffusion of Innovation Theory (DIT). These methods provide standards for evaluating TAMM's effect, especially in terms of user satisfaction and automation efficiency.

III. HYPOTHESES

Digital transformation fundamentally impact the government delivery of services [2] by means of process automation, accessibility, and better efficiency. Therefore, this study aims to address the following research question: "To what extent has TAMM's digital transformation improved process automation, service delivery speed and public trust in digital government services in Abu Dhabi?". Since TAMM is already adopted and used by many residents, our study focuses on post-usage perceptions.

To do so, we developed a set of hypotheses assessing individual impressions of TAMM's effectiveness to improve digital government services. We categorize our hypotheses into the following: Process automation, service delivery and public trust and quality.

Process automation reduces human intervention and reduces many errors that could arise from manual transactions. However, concerns regarding the effectiveness of these automated systems especially when human intervention is required. In his research [6] suggest that even though automation aims to streamline digital processes and government transactions reducing time and effort, its overall effectiveness is often judged by how easily users can navigate through these digital platforms. Moreover, automation does not necessarily mean that users will have a positive experience. [6] highlights that a well-automated service must be seamlessly integrates, user friendly and responsive. Therefore, the following hypothesis is proposed:

H1: The use of TAMM has significantly reduced the number of steps and physical visits require for government transaction.

Moreover, the success of process automation relies on usability and efficiency. If a platform is difficult to use, it cannot be considered efficient [3]. Since TAMM is being used by many, it should follow that the platform should be easy to find information and services. Therefore, we propose the following hypothesis:

H2: Users will find TAMM easy to navigate and use

Additionally, one of the main goals of digital transformation is to enhance the speed of government service delivery by providing real-time, user centric digital interactions [2]. For instance, AI-driven chatbots and self-service portals reduce waiting times as opposed to traditional in-person transactions. We propose the following hypothesis to assess whether TAMM has resulted in enhanced service delivery:

H3: The application of TAMM has sped up the response times for governmental transactions.

Moreover, although digital platforms enhance accessibility, they can raise concerns about inclusion, as individuals who find technology challenging may struggle to use these platforms. This raises the question of whether users experience real improvements in accessibility when using platforms such as TAMM and therefore, we propose the following hypothesis:

H4: TAMM's digital transformation has significantly improved the accessibility of government services.

While public trust is a critical factor in adopting digital transformation [6], it is shaped by ease of use, data security and privacy and transparency [3]. Even though TAMM aims to build trust through its digital services, question regarding data privacy arise. According to [5], research shows that when users find platforms easy to navigate, trust in e-government services increases. The platform in question is TAMM and hence, we hypothesize the following:

H5: A significant positive correlation exists between ease of use and trust in TAMM.

Finally, a link between digital transformation and improvements in quality of life has been proposed by a study [2]. We posit TAMM may have had similar impact on residents in Abu Dhabi and present our concluding hypothesis:

H6: TAMM has significantly improved convenience and quality of life in Abu Dhabi.

IV. METHODOLOGY

We use a quantitative approach to evaluate the extent to which TAMM, as an e- government platform, has enhanced process automation, increased the speed of service delivery, and strengthened public trust in e-government services.

A survey-based methodology was used, as it allows for a systematic assessment of user perception using quantitative and structured responses. Surveys have been widely used in e-government studies to evaluate user satisfaction and adoption rates [3]. This method is appropriate for identifying trends, statistical relationships, and demographic variations in how people experience TAMM's digital transformation. The survey will capture users' perception on TAMM across three key dimensions including process automation, service delivery and public trust and service quality.

The survey targeted residents of Abu Dhabi who have used or are using TAMM for government services. To ensure diversity and a representative sample of Abu Dhabi's population, the responses were gathered from various age groups, employment sectors and educational backgrounds. Our final sample size consisted of 250 different users of various age, employment status and educational background for statistical power.

V. FINDINGS

Initial findings support our hypotheses and seem to suggest that TAMM is successful in reducing bureaucratic inefficiencies, speeding up governmental transactions, and enhancing citizen confidence in digital services. This study also emphasizes the importance of digital platforms being user-friendly to foster trust and adoption.

VI. CONCLUSION

A significant contribution of this research is its ability to link digital transformation with user experience. Preliminary results provide quantitative evidence that digital transformation improves process efficiency and boosts user satisfaction. Findings of this study will bring forth important insights of digital transformation in government services across customer experience, data utilization, service innovation, operational processes and value creation. By evaluating the effects of TAMM's digital transformation on process automation, service quality and delivery, the study contributes to academic research and practical policymaking.

REFERENCES

[1] Oh, K., Kho, H., Choi, Y., & Lee, S. (2022). Determinants for Successful Digital Transformation. *Sustainability*, *14*(3), 1215.

[2] Alzarooni, A. I., Alhashmi, S. M., Lataifeh, M., & Rice, J. (2024). Navigating digital transformation in the UAE: Benefits, challenges, and future directions in the public sector. Computers, 13(281).

[3] Alshawaaf, N., & Alzougool, B. (2024). Evaluating success in digital transformation of government services: Insights from Kuwait. Preprints.

[4] Savignon, A. B., Zecchinelli, R., Costumato, L., & Scalabrini, F. (2024). Automation in public sector jobs and services: A framework to analyze digital transformation's impact. Transforming Government, 18(1), 49-70.

[5] Straub, V. J., Morgan, D., Hashem, Y., Francis, J., Esnaashari, S., & Bright, J. (2023, August). A multidomain relational framework to guide institutional AI research and adoption. In Proceedings of the 2023 AAAI/ACM Conference on AI, Ethics, and Society (pp. 512-519).

[6] Schmager, S., Grøder, C. H., Parmiggiani, E., Pappas, I., & Vassilakopoulou, P. (2024). Exploring citizens' stances on AI in public services: A social contract perspective. Data & Policy, 6, e19.

[7] Badri, M., Alkhaili, M., Aldhaheri, H., & Yang, G. (2024). Unveiling shadows: Exploring the dark side of digital transformation in Abu Dhabi. Digital Transformation and Society, 4(1), 39-56.

[8] Gasco Hernandez, M. (2024). Reflections on three decades of digital transformation in local governments. Local Government Studies, 50(6), 1028-1040.