DIGITAL ADAPTATION IN THE E-POSTAL SERVICE SYSTEM AT THE BATAM CITY IMMIGRATION OFFICE

Rahmayandi Mulda[1*], Muhammad Solihin[2], Yustinus Farid Setyobudi[3], Meri Enita Puspita Sari[4], Diah Ayu Pratiwi[5], Ibrahim Sahidjun Miguel[6].

[1,2,3,4]Government Science Program, Faculty of Social and Political Sciences, Universitas Riau Kepulauan

[5] Government Science Program, Faculty of Social and Political Sciences Universitas Bina Bangsa

[6] Department of Political Science, College of Arts and Sciences, Mindanao State University Tawi-Tawi College of Technology and Oceanography, Bongao, Tawi-Tawi, Philippines

*Email: muldarahmayandi@gmail.com

Abstract

Digital transformation in public services is a strategic step in improving service quality and efficiency, including in the immigration sector. This study examines digital adaptation through the implementation of the E-Passport system at the Batam City Immigration Office using the Unified Theory of Acceptance and Use of Technology (UTAUT) approach. The UTAUT model evaluates four main constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions that influence user acceptance of technology. The results showed that the M-Passport application and the digital infrastructure provided significantly increased users' perceived ease and trust in the service. In addition, social support and supporting facilities at the immigration office also strengthen the adoption of this system by the community. However, there are challenges for those with limited digital access. Therefore, an inclusive and educative service strategy is still needed to ensure the overall success of technology adaptation. This study recommends continuous evaluation and improvement of digital features to optimize public service transformation.

Keywords: Digital Adaptation, E-Postal, Immigration, UTAUT.

INTRODUCTION

Digitalization of the government bureaucracy is currently a very important thing in the public service system because it can streamline time and costs besides encouraging government transparency. Public administration organizations worldwide have embraced e-government services in an effort to reduce administrative costs and increase the efficacy and efficiency of public service delivery. But even with the potential advantages of e-government services, public servants in underdeveloped nations continue to use them insufficiently (Mphahleleet et al., 2025). People's expectations of the government's capacity to provide high-value, real-time digital services are shifting as a result of digital transformation initiatives in the public sector (Mergel et al, 2019). Both the public and private sectors have seen substantial changes as a result of information and communication technology (ICT) advancements. ICTs in particular

have been crucial in promoting the local level modernization of public services (Faozanudin et al., 2023). Technology tools such as IoT and AI can enable the development of valuable services for citizens, both in the business world, and public institutions such as public services (Kankanhalli et al., 2019). Research on digital transformation has drawn more attention in the last 20 years, and the literature has looked at a wide range of subjects (Kraus et al. 2021).

When it comes to delivering public services to the public, e-government offers the government numerous advantages. However, there are obstacles preventing certain Indonesians from using e-government (Al-Kautsar et al., 2025) Technological infrastructure and the availability of financial resources significantly influence the adoption of digital innovations, in improving the quality of public services and government performance. the important role of strong technological infrastructure in facilitating the adoption of digital innovations, it is expected that the government can invest in technological infrastructure and allocate financial resources carefully and strategically (Purnamasari, et al., 2025). Digital capabilities, governance, leadership, organizational partnerships, country characteristics, collaborative environment, financial support, and transparency have an influence on public trust in government bureaucracies (Virnandes et al., 2024). When it comes to public sector innovation, governments have particular difficulties that fall into a number of important categories, including communication, organizational structure, innovation strategy, innovation culture, and resources. The long-term competitiveness of businesses depends on addressing fundamental obstacles, five of which are connected to innovation culture. These challenges include a culture that is resistant to change, low motivation, and inadequate training (Abuzanjal and Bashir 2024).

Online public services' quick global growth has altered how governments communicate with their constituents by providing efficiency and ease. However, because sensitive data transferred between users and service providers via public networks is vulnerable to cyberattacks, this digital transition also presents serious security dangers. Thus, ensuring these services' security and reliability is essential to the accomplishment of Electronic Government projects (Ribeiro et al., 2025). The service experience of citizens is influenced by the design features of e-government services. Four categories of e-government impact can be defined and their corresponding design features identified based on the public value perspective: (1) capability, which includes accuracy and comprehensiveness; (2) interaction, which includes ease of access and self-service capabilities; (3) orientation, which includes user support and personalization capabilities; and (4) value distribution, which includes privacy protection. Two

service experience outcomes—service quality and intention to continue using the service—are influenced by people's perceptions of design features, which in turn influence four fundamental technology beliefs: performance expectations, effort expectations, facilitating conditions, and trust (Chan et al., 2025).

The majority of earlier studies that examined people's behavioral characteristics in relation to the adoption of e-services focused on adults, with relatively little research being done on government employees. In the course of government operations, government employees play a crucial role as the primary conduit for communication between the public and the service provider, the government (Iong and Phillips 2023).

Launched at the end of 2021, M-Passport is an application that replaces APAPO. Everyone in Indonesia has been instructed to use the M-Passport application to apply for passport lines ever since it was launched. Batam City is a strategically located city that shares a border with Malaysia and Singapore. Naturally, a lot of Indonesians go through Batam City thanks to these benefits, which raises the number of passport applications in the city (Liang et al., 2024).

Table 1: Number of Passports Issued in 2023

No.	Month	Publishing	Rejection	Amount
1	January	7858	18	7876
2	February	7448	19	7467
3	March	7628	9	7637
4	April	4535	10	4545
5	May	7642	12	7654
6	June	6155	8	6163
7	July	7004	14	7018
8	Agustus	7177	81	7258
9	September	6508	22	6530
10	Oktober	7175	18	7193
11	November	7202	21	7223
12	Desember	6743	9	6752
	Amount	83.073	241	83.316

Source : (Lubis 2024)

Based on existing data that users of passport issuance services in Batam city are very significant compared to other regions in Indonesia, such as in Palembang recorded passport service users of 15,000 people in 2024, (Kemenkum 2024), in Depok above 10 thousand by 2023 (Puspita 2024) By implementing electronic-based services, it can reduce the workload and efficiency of services to the people in the city of Batam.

LITERATUR REVIEW

The technology acceptance model has evolved into a mix of culture, psychology, sociology and information technology (Chukwuere et al., 2021). These models help in understanding the predictors of human behaviour towards potential adoption or rejection of innovations/technologies (Al-Tarawneh 2019). Technology adoption theories that draw on individual and organizational behaviour, psychology and sociology, and strategy and economics (Kauffman and Techatassanasoontorn 2010). User perceptions of the utility and usefulness of a technology can help stakeholders identify potential adoption barriers and develop initiatives to increase technology acceptance (Taherdoost 2018).

UTAUT, introduced by Venkatesh et al. in 2003, hypothesizes that the four main elements of performance expectations, effort expectations, social influence, and facilitating conditions determine whether users will adopt new technologies in the workplace. UTAUT proposes that perceived usefulness (performance expectations), perceived ease of use (effort expectations), and social influence (norms) influence technology use through behavioural intentions, while facilitating conditions directly precede behaviour. In addition, individual difference variables such as age, gender, experience, and voluntariness can influence the four main elements of UTAUT (Sovacool & Hess, 2017; Venkatesh, et al., 2003). This model can obtain a more accurate explanation of consumer behaviour, not only in terms of technology acceptance, but also other factors that are considered to have an effect on consumers such as culture and security (Mahphoth, et al., 2024).

To produce a logical and trustworthy framework, it incorporates components from several technology adoption theories. According to the UTAUT model, people's acceptance and use of technology are primarily influenced by four key elements. The first construct, titled Performance Expectancy, measures the extent to which individuals believe that the use of a particular technology will improve their ability to perform their tasks or make their responsibilities easier and more efficient (Dwivedi, et al., 2019). Effort Expectancy, The second aspect, however, relates to how effective people perceive the technology to be. This relates to the idea that using and becoming proficient with the technology will be easy (Alalwan, et al., 2016). Social influence, the third construct, looks at how people's subjective norms and other people's perceptions affect their decision to use new technology (Williams et al., 2015). This covers things like what friends, bosses, and coworkers think about the particular technology. The fourth element, facilitating conditions, gauges how people view the institutional and

technological frameworks that support the adoption of new technologies (Taherdoost, et al., 2024).

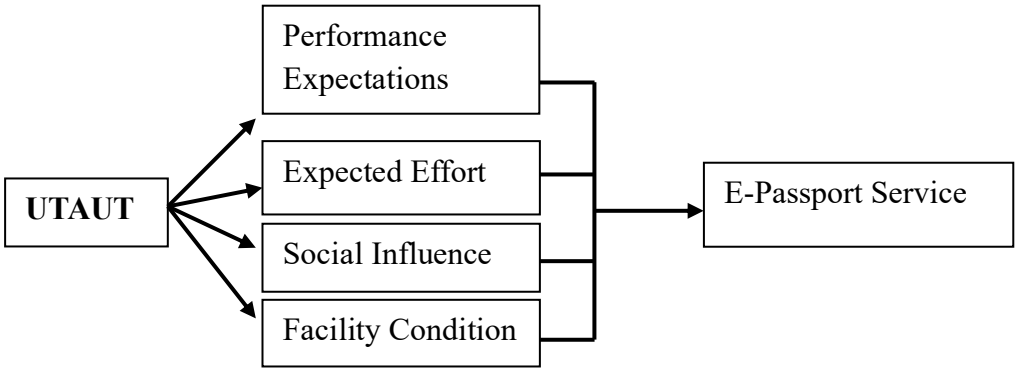

Figure 1: UTAUT Theoretical Framework
Source: Processed by Researcher (2025)

The UTAUT theoretical framework above using four main indicators, namely effort expectation, effort expectation, social influence, and facility conditions become an analytical tool in seeing the level of digital adaptation in the E-passport service system at the Batam City Immigration Office. This approach is considered more objective in looking at the aspects of service users in digital adaptation.

RESEARCH METHODS

The research method approach that is generally used in understanding a social phenomenon is a descriptive skin approach, the qualitative method is dynamic, meaning that it is always open to changes, additions, and additions during the analysis process (Zaini et al. 2023). In the context of understanding this research, using qualitative research methodology because it looks at several aspects of existing research indicators such as performance expectations, effort expectations, social influence and supporting facilities in the digital adaptation process at the Batam immigration office.

The stages of data analysis in digital adaptation research at the Batam city immigration office, the first step taken is data collection, namely collecting data through in-depth interviews with leaders and employees of the Batam city immigration office, documentation through online and social media as well as documents or data needed in E-Passport services, and field observations by seeing the direct process of E-Passport services. The data collected is narrative, in the form of interview transcripts, field notes, and relevant written documents. Then the second stage is data reduction, namely sorting, selecting, and focusing data that is important and relevant to the research objectives. for example, from the results of the interview, only parts

related to performance expectations, social influence, or constraints in digital adaptation were taken for further analysis. The goal is to simplify the raw data to make it easier to analyze. The third stage is to present the data, namely presenting the data that has been reduced in the form of descriptive narratives, matrices, tables, or thematic charts. At this stage it helps researchers see patterns or relationships between data more clearly and systematically. Furthermore, the fourth step is drawing conclusions and verification by concluding the meaning of the data that has been analyzed. Verification is done by comparing data between sources, referring to theory, and involving triangulation (for example by comparing interview results with documentation or observation). The fifth stage is data triangulation, which combines various data sources and methods to ensure the validity and credibility of the findings in this context, data from interviews, observations, and documentation are compared to avoid bias or misinterpretation. Finally, data interpretation gives meaning to the data found, linking it to the theory or conceptual framework of technology adoption theory and then explaining why and how the phenomenon of digital adaptation at the Batam Immigration Office occurs as found in the data.

RESULTS AND DISCUSSION

Performance Expectations

Digitalization of the E-Passport service system at the Batam City immigration office is expected to reduce queues of service users in the management of E-Passports, cut the chain of illegal levies, minimize service time and provide convenience for service users in preparing complete documents, because the main obstacle faced by the Batam city immigration is the high interest in services but the ability of resources is still very limited, with the application of digital systems will facilitate and streamline services. The following can be described the system or flow of digital services for E-Passport management at the Batam City Immigration Office.

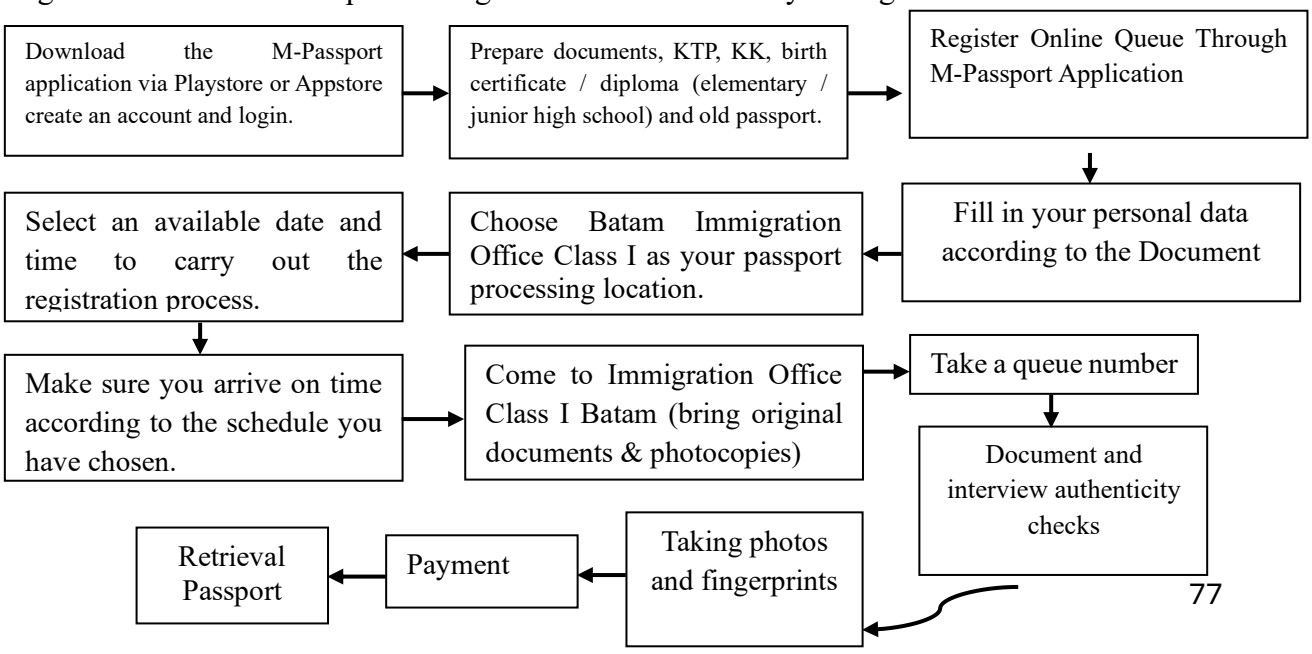

Figure 2: Systematization of E-Passport Digital Service Flow
Source: Processed by Researcher (2025)

Service users' perceptions on the aspect of expectations of efforts made by the immigration office in digitizing services are considered very good because before the digitization of e-passport services the queue was very long and spent quite a long time until a full day and could spend up to days, besides that service users do not necessarily get a queue number or can be served when service users come to the immigration office. After the digitization process, problems related to queuing service users can be resolved properly and are considered very good, besides that problems related to brokers or illegal levies can be avoided and eliminated because both the payment system and the completeness of file documents have gone through a digital process. The service information system is considered very good through websites, social media, email and through contact persons.

Expected Effort

In the aspect of expectation towards digitalization efforts, the services provided by the Immigration Office of Batam City are considered to be in accordance with the expectations of the community. This can be seen from the digital service system that runs in line with the timeliness that has been determined. For example, service users will receive a notification to come to the immigration office according to the scheduled date and time. When users arrive as scheduled, they can be served in a timely and efficient manner without having to wait long. This accuracy and speed in the service process shows that the implemented digital system works well.

Image 1: Instagram Social Media of Batam City Immigration
Source: Researcher Observation

The efforts made by Batam City Immigration in supporting this digital transformation also include broad and structured information dissemination to the public. Service information is delivered through various communication channels such as social media, email, and official contact persons, so that service users can obtain information quickly and accurately. This approach helps to increase community engagement while strengthening transparency and accountability in the public service process.

The public expectation on the application of digital technology by the Batam City Immigration Office so far can be said to have been fulfilled. The technology used is able to support the ease, speed, and efficiency of services. In addition, the ease of access to information and electronic data management reflects the agency's commitment to improving the quality of public services in a sustainable manner. By continuing to develop digital innovations, it is expected that immigration services in the future will be more responsive and adaptive to the needs of the community.

Social Influence

Public perception of E-Passport services provided by the Immigration Office shows a significant influence, especially in terms of convenience and efficiency offered through electronic systems. This digital system is considered very helpful for the E-Passport management process, thus increasing public interest in making electronic passports, even though some of them do not have concrete plans to travel abroad.

This interest is driven by the hope and readiness of individuals to travel internationally in the future. People assume that by having an E-Passport in advance, they will find it easier to realize their intention to travel when the opportunity comes. This is quite relevant for residents of Batam City, given its strategic location and proximity to neighboring countries such as Singapore and Malaysia. Many people make E-Passports with the aim of short trips to these countries, although not on a regular basis.

In addition, social factors also influence people's decision to apply for an E-Passport. Influence from close people such as family, work friends or peers plays an important role. Recommendations and personal experiences shared through direct conversations and posts on social media reinforce positive perceptions of this service.

Social media also plays a huge role in shaping public opinion. Immigration and service users actively share information about the ease and speed of electronic E-Passport services through various platforms. The dissemination of this information encourages the public to feel

more confident and enthusiastic in utilizing the digital services offered by Immigration, while encouraging digital transformation in public services as a whole.

Facility Condition

Digital infrastructure in the E-Passport service system at the Batam City Immigration Office is considered very good because of the availability of various digital and non-digital facilities such as service rooms equipped with digital-based facilities, such as computers, barcodes, internet networks, and other facilities that support digital-based E-Passport services. From the aspect of the M Passport application, it is considered very good because it can be downloaded via google play so that it makes it easier for service users to submit E-Passport documents without the need to come directly to the Immigration office. Service users only come to the immigration office when taking pictures and verifying the authenticity of documents and taking passports according to the schedule determined by the immigration office.

The service system becomes very easy because there is no need to wait for a long queue because it is immediately served in accordance with the time determined by the immigration office of Batam city, besides that verification of files or documents uses a fairly short time because it has been determined all the completeness of the files that must be met either through the application or socialization through social media such as Instagram or information via WhatsApp Batam city immigration office.

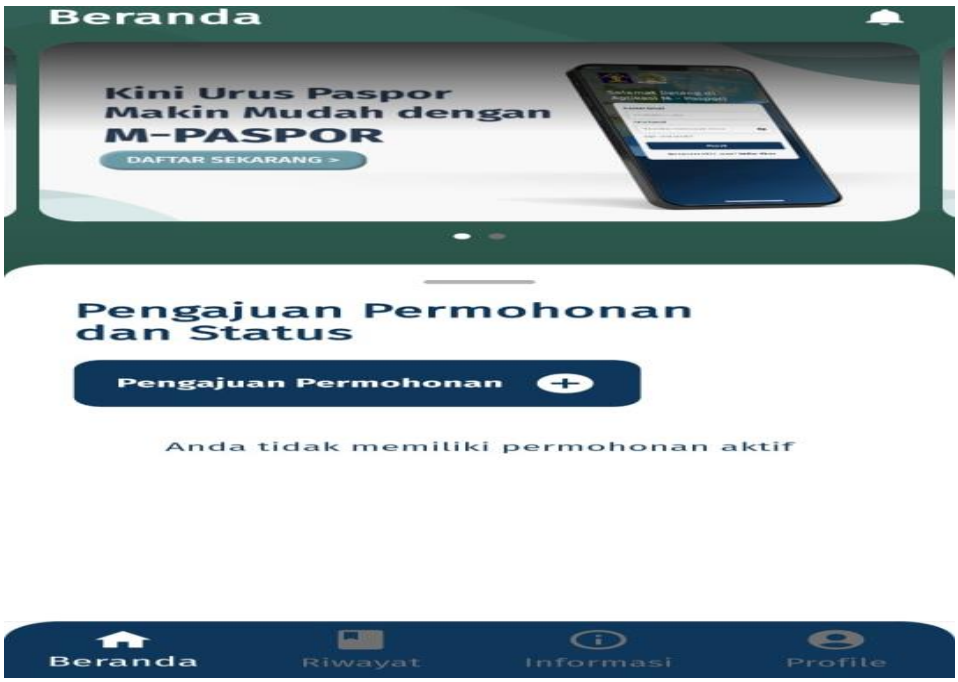

Image 2: M-Passport Application Home View

Source: Researcher Documentation

Immigration Office Class I Special Immigration Checkpoint (TPI) Batam has shown high commitment in improving the quality of public services through the implementation of modern digital infrastructure and information technology-based applications. The availability of digital facilities at the Batam Immigration Office greatly supports the smooth process of E-Passport services. The service room is equipped with computer equipment, barcode scanning system, stable internet network, and other supporting facilities. This allows applicants to access the service efficiently and reduces the potential for administrative errors. The M-Passport application, which can be downloaded through the Google Play Store and the App Store, is now available for download.

Table 2: E-Passport Digital Service Facilities

No.	Supporting Facilities	Description
1	M-Passport application via Playstore or Appstore	Queue list application, document data input, and other service information.
2	Social media, Istagram	General service information IG: @imigrasibatam
3	WhatsApp	Personal service information Chat WA Information Center 08117002019 & Passport Complaints 081364700070.
4	Computer self-service	Print the self-queue list
5	Queue monitor or screen	Queue waiting list.

Source: Processed by Researchers (2025)

Applicants can fill out forms, upload required documents, and make payments online without the need to come directly to the immigration office. After that, the applicant only needs to be present for the biometric process, such as taking photos, fingerprints, and interviews, according to the schedule that has been determined through the application. With the implementation of the M-Passport application, the Batam Immigration Office seeks to reduce the practice of brokering that often occurs in the passport processing process.

Through an online queuing system and process transparency, the public can access the service directly without intermediaries, thus minimizing the potential for abuse by irresponsible individuals. For people who do not have access to digital devices or have difficulties in using the application, the Batam Immigration Office provides direct assistance services. Officers are ready to assist applicants in the process of registering and applying for passports manually, ensuring that all levels of society can access immigration services easily. The implementation of digital infrastructure and M-Passport application at Batam Immigration Office shows a positive impact in improving efficiency, transparency, and accountability of public services. However, periodic evaluation is needed to identify potential technical and social constraints, as

well as to ensure that this digital transformation is inclusive and accessible to the entire community without constraints.

CONCLUSIONS

The results of the findings in the discussion with four main indicators, namely performance expectations, effort expectations, social influences, and facility conditions in the UTAUT (Unified Theory of Acceptance and Use of Technology) framework, found that all of these indicators have a positive impact on the digitization of electronic-based E-Passport services. The four indicators support each other and contribute to the level of acceptance and successful implementation of digital systems in public services. This is inseparable from the previous service conditions that were still conventional and manual, where people often faced various obstacles in the E-Passport management process. These obstacles include very long waiting times, which can take days to months just to get a queue number. In addition, the process of collecting and examining documents is often inefficient and creates confusion among passport applicants.

The presence of a digital service system makes the E-Passport application process much easier, faster, more transparent and efficient. Applicants can now access the service online, upload the required documents, choose a visit schedule, and monitor the application status in real time. This also increases transparency as each stage of the process can be clearly tracked. This system not only increases public satisfaction but also supports bureaucratic reform in public services, in line with the development of information technology that continues to grow in today's digital era.

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In research related to the digitalization of e-passport services in Batam City, there are various theories and perspectives that interact with each other, creating constructive debates. Some of the main views that emerged from previous studies and became different views such as from the aspects of effectiveness and accountability of digital services, based on the results of a study by Agata Christie Lubis (2024) assessing that the effectiveness of the Mobile Passport

Application (M-Passport) in improving service accountability at the Batam Immigration Office. Although the application successfully manages queues and daily quotas of up to 200 applications, challenges arise in public understanding of the program. Inadequate socialization has caused the public to not fully understand the program, potentially reducing its effectiveness (Lubis 2024). Another debate is the aspect of digital transformation and digital culture Pratiwa Wisnu Maharsi (2023) highlighted that the launch of M-Passport should encourage changes in digital culture in society. However, the reality is that immature applications and sub-optimal implementation hinder the development of a digital culture. Factors such as lack of infrastructure, training, and community adaptation are significant obstacles in this digital transformation (Maharsi 2023). Related to the results of the study conducted by Maharsi occurred in 2023, there is a long enough time span so that within that time span it is possible to improve and increase E-Passport services in Batam city in 2025.

The results of a study conducted by Fajar Rizky Fadilah (2025) proposed the application of the Agile Governance concept in immigration services through M-Passport. This approach emphasizes flexibility and responsiveness in the face of change, which is important in the context of dynamic public services. However, challenges related to organizational readiness and adaptation to change remain a major concern in its implementation (Fadilah 2025).

This theoretical debate shows that although the digitalization of e-passport services in Batam City has the potential to improve efficiency and service quality, challenges related to public understanding, organizational readiness, and accessibility still need to be addressed. A holistic and inclusive approach is needed to ensure that this digital transformation can provide maximum benefits for all levels of society.

The results of this study are useful for Immigration and other government agencies as material for evaluating the effectiveness of the use of digital technology in improving service quality. The findings in the field can also be used as a basis for improving service systems, increasing human resource competencies, and developing a broader and more measurable public service digitization strategy. Furthermore, the results of this study are theoretically useful for strengthening or modifying the assumptions in the UTAUT theory by showing how these factors interact in a government bureaucratic environment that has its own characteristics and challenges. This research also provides new insights into the expansion of UTAUT theory to the public service sector in Indonesia.

The limitations or shortcomings in this study are that it has not seen differences in the aspects of the views of age groups or age and gender in the selection of respondents, for future

research recommendations, it is necessary to develop the theory by combining other digital adaptation theories such as TAM, DOI, TOE, UMEGA or other theories.

DAFTAR PUSTAKA

Abuzanjal, Abeer, and Hamdi Bashir. 2024. "Service Innovation Challenges in UAE Government Entities: Identification and Examination of the Impact of Organizational Size and Excellence Model Implementation." *Journal of Open Innovation: Technology, Market, and Complexity* 10(3): 100364. https://www.sciencedirect.com/science/article/pii/S2199853124001586.

Al-Kautsar Maktub, Muhammad, Putu Wuri Handayani, and Fathia Prinastiti Sunarso. 2025. "Citizen Acceptance and Use of the Jakarta Kini (JAKI) e-Government: Extended Unified Model for Electronic Government Adoption." *Heliyon* 11(2): e42078. https://www.sciencedirect.com/science/article/pii/S240584402500458X.

Al-Tarawneh, Jawdat M. 2019. "Technology Acceptance Models and Adoption of Innovations: A Literature Review." *International Journal of Scientific and Research Publications (IJSRP)* 9(8): p92116.

Alalwan, Ali Abdallah, Yogesh K. Dwivedi, Nripendra P.P. Rana, and Michael D. Williams. 2016. "Consumer Adoption of Mobile Banking in Jordan: Examining the Role of Usefulness, Ease of Use, Perceived Risk and Self-Efficacy." *Journal of Enterprise Information Management* 29(1): 118–39.

Chan, Frank K Y, James Y L Thong, Susan A Brown, and Viswanath Venkatesh. 2025. "Design Characteristics and Service Experience with E-Government Services: A Public Value Perspective." *International Journal of Information Management* 80: 102834. https://www.sciencedirect.com/science/article/pii/S0268401224000823.

Chukwuere, J E, O J Ntseme, and A A Shaikh. 2021. "Toward the Development of a Revised Technology Acceptance Model." In *Proceedings of the International Conference on Electronic Business (ICEB)*, , 551–61. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85125322665&partnerID=40&md5=567bd0741fefd147f35f309ef4a40c66.

Dwivedi, Yogesh K. et al. 2019. "Re-Examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a Revised Theoretical Model." *Information Systems Frontiers* 21(3): 719–34.

Fadilah, Fajar Rizky. 2025. "Konsep Agile Governance Dalam Pelayanan Imigrasi Melalui Aplikasi M-Paspor Di Kota Batam." Universitas Muhammadiyah Yogyakarta. https://etd.umy.ac.id/id/eprint/50180/?utm_source=chatgpt.com.

Faozanudin, M, S Rosyadi, and L S Sulistiani. 2023. "The Preparedness Of Village Governments For The Digital Transformation Of Public Services In Banyumas Regency, Indonesia." *Public Policy and Administration* 22(4): 448–62. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85181071431&doi=10.13165%2FVPA-23-22-4-05&partnerID=40&md5=b848b1c4f6b686c13511ac7e3557e743.

Iong, Kit Yeng, and Jenny O L Phillips. 2023. "The Transformation of Government Employees' Behavioural Intention towards the Adoption of E-Government Services: An Empirical Study." *Social Sciences & Humanities Open* 7(1): 100485.

https://www.sciencedirect.com/science/article/pii/S2590291123000906.

Kankanhalli, Atreyi, Yannis Charalabidis, and Sehl Mellouli. 2019. "IoT and AI for Smart Government: A Research Agenda." *Government Information Quarterly* 36(2): 304–9. https://www.sciencedirect.com/science/article/pii/S0740624X19300905.

Kauffman, Robert J., and Angsana A. Techatassanasoontorn. 2010. "New Theoretical Perspectives on Technology Adoption." *Information Technology and Management* 11(4): 157–60.

Kemenkum. 2024. "Permohonan E-Paspor Di Imigrasi Palembang Melonjak Signifikan." *https://sumsel.kemenkum.go.id*. https://sumsel.kemenkum.go.id/berita-utama/permohonan-e-paspor-di-imigrasi-palembang-melonjak-signifikan.

Kraus, Sascha et al. 2021. "Digital Transformation: An Overview of the Current State of the Art of Research." *SAGE Open* 11(3). https://journals.sagepub.com/doi/abs/10.1177/21582440211047576.

Liang, Suwarno, Mangapul Siahaan, and Jocelyn Jocelyn. 2024. "Analisis Kesuksesan Aplikasi M-Paspor Di Kota Batam Dengan Menggunakan Model Delone Dan Mclean." *Jurnal Sistem Informasi Bisnis* 14(1): 38–45.

Lubis, A C B. 2024. "Efektivitas Program Mobile Paspor Dalam Mendorong Akuntabilitas Pelayanan Di Kantor Imigrasi Kelas I Khusus TPI Kota Batam." *SAJJANA: Public Administration Review* 02(01): 1–12. https://talenta.usu.ac.id/sajjana/article/view/16620%0Ahttps://talenta.usu.ac.id/sajjana/article/download/16620/7579.

Maharsi, Pratiwa Wisnu. 2023. "Peran Transformasi Digital Dalam Perkembangan Budaya Digital Pengguna Aplikasi M-Paspor Di Kantor Imigrasi Kelas I Khusus TPI Batam." UGM. https://etd.repository.ugm.ac.id/penelitian/detail/220998?utm_source=chatgpt.com.

Mahphoth, M H et al. 2024. "Building a Research Model for Consumers' Perception of Electronic Payment in a Post COVID-19 Environment." In *AIP Conference Proceedings*, https://www.scopus.com/inward/record.uri?eid=2-s2.0-85192025721&doi=10.1063%2F5.0182014&partnerID=40&md5=378f9256c6d736650e4b6bb08337c077.

Mergel, Ines, Noella Edelmann, and Nathalie Haug. 2019. "Defining Digital Transformation: Results from Expert Interviews." *Government Information Quarterly* 36(4). https://www.sciencedirect.com/science/article/pii/S0740624X18304131.

Mphahlele, Ngoanamosadi Stanford, Raymond Mompoloki Kekwaletswe, and Tshinakaho Relebogile Seaba. 2025. "Model to Explain Use of E-Government Service Change: Use of Unified Theory of Acceptance and Use of Technology and Information Systems Success Model to Explain Use of E-Government Service Change: Emerging Market Case." *Telematics and Informatics Reports* 17: 100190. https://www.sciencedirect.com/science/article/pii/S2772503025000052.

Purnamasari, Ratih, Agus Ismaya Hasanudin, Rudi Zulfikar, and Helmi Yazid. 2025. "Technological Infrastructure and Financial Resource Availability in Enhancing Public Services and Government Performance: The Role of Digital Innovation Adoption in Indonesia." *Social Sciences & Humanities Open* 11: 101621.

https://www.sciencedirect.com/science/article/pii/S2590291125003493.

Puspita, Dara Indah. 2024. "Penyelenggaraan Pelayanan Paspor Di Kantor Imigrasi Kelas I Non Tempat Pemeriksaan Imigrasi (TPI) Depok Ditinjau Dari Perspektif Dynamic Governance." *Jurnal Pembangunan dan Administrasi Publik* 6.

Ribeiro, Diogo, Vítor Fonte, Luis Felipe Ramos, and João Marco Silva. 2025. "Assessing the Information Security Posture of Online Public Services Worldwide: Technical Insights, Trends, and Policy Implications." *Government Information Quarterly* 42(2): 102031. https://www.sciencedirect.com/science/article/pii/S0740624X25000255.

Sovacool, Benjamin K., and David J. Hess. 2017. "Ordering Theories: Typologies and Conceptual Frameworks for Sociotechnical Change." *Social Studies of Science* 47(5): 703–50.

Taherdoost, Hamed. 2018. "A Review of Technology Acceptance and Adoption Models and Theories." *Procedia Manufacturing* 22: 960–67. https://doi.org/10.1016/j.promfg.2018.03.137.

Taherdoost, Hamed, Nachaat Mohamed, and Mitra Madanchian. 2024. "Navigating Technology Adoption/Acceptance Models." *Procedia Computer Science* 237: 833–40. https://www.sciencedirect.com/science/article/pii/S1877050924011888.

Venkatesh, Viswanath, Michael G Morris, Gordon B Davis, and Fred D Davis. 2003. "User Acceptance of Information Technology: Toward a Unified View1." *MIS Quarterly* 27(3): 425–78. https://www.proquest.com/scholarly-journals/user-acceptance-information-technology-toward/docview/218137148/se-2?accountid=187856.

Virnandes, Sose Raeinaldo, Jun Shen, and Elena Vlahu-Gjorgievska. 2024. "Building Public Trust through Digital Government Transformation: A Qualitative Study of Indonesian Civil Service Agency." *Procedia Computer Science* 234: 1183–91. https://www.sciencedirect.com/science/article/pii/S1877050924004721.

Williams, Michael D., Nripendra P. Rana, and Yogesh K. Dwivedi. 2015. "The Unified Theory of Acceptance and Use of Technology (UTAUT): A Literature Review." *Journal of Enterprise Information Management* 28(3): 443–48.

Zaini, Muhammad et al. 2023. *Metodologi Penelitian Kualitatif*. Aceh: YPMZ.