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TREND OF PUBLIC SERVICE APPLICATION ACCEPTANCE ANALYSIS: A SYSTEMATIC REVIEW USING THE PRISMA APPROACH

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ABSTRACT

Indonesia's public service digital transformation has seen continuous development over the last five years, from 2020 to 2024. Digitalization is being applied across various sectors, including health, immigration, public service malls (MPP), local government, and the energy and financial sectors. This research aims to analyze the development of technology utilization in public services, identify the most frequently used analytical methods in studies related to public service applications over the past five years, and determine the factors influencing user satisfaction with public service applications. This study employs a Systematic Literature Review (SLR), guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach. It gathered and analyzed various research works related to technology implementation in public services to identify development patterns, dominant analytical methods, and key factors in assessing user satisfaction with applications. The research findings indicate that the Technology Acceptance Model (TAM) has remained the most dominant method over the past five years (2020-2024). The most influential factors affecting user satisfaction with applications are system quality, information quality, perceived ease of use, and service quality. The main challenges in digital transformation implementation include lack of information dissemination, the digital divide, infrastructure limitations, and resistance to change. With the increasing adoption of technology, research on public services is now shifting from user acceptance analysis towards the evaluation of implementation success and the impact of digitalization policies.

INTRODUCTION

In the current digital era, using information technology in public services has become a necessity to improve efficiency and service quality. In their book, (Satispi & Si, 2018) state that the government's obligation to provide public services to the community involves the active participation of government, especially state civil servants, as public servants. They further explain that the strategic position of state civil servants in public service determines the extent to which the government can deliver the best service to the public, and how well the state has fulfilled its duties in accordance with its founding objectives.

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In Indonesia, public services are vital for fulfilling community needs and ensuring social welfare. However, despite various reforms, public services in many regions still face obstacles in terms of effectiveness, efficiency, and equitable access. Complex bureaucracy and lengthy administrative procedures often hinder fast and adequate services. Disparities in infrastructure and uneven distribution of resources, especially in remote areas, further worsen this situation. Public services are pivotal in ensuring the well-being and quality of life for the community (Rahman, et al., 2023). In the past decade, there has been a sustained rise in focus on enhancing public service quality, driven by society's increasingly intricate and varied demands (Kurniati, et al., 2021).

Public service is one of important aspect of governance, aiming to meet community needs and enhance social well-being. In today's digital age, the use of applications in public service has become a global trend adopted by many countries, including Indonesia. These applications are designed to improve efficiency, transparency, and accountability in public service delivery, while also making it easier for the public to access the various services they need.

The use of applications in public services offers significant benefits. First, these applications can expedite administrative processes that previously consumed considerable time due to complex manual procedures. For instance, online queuing applications, as seen in immigration offices, have effectively reduced waiting times and boosted user satisfaction (Ramos, et al., 2022). Second, applications also enhance transparency by allowing the public to monitor service processes in real-time, thereby curbing the potential for corruption and abuse of power (Androutsopoulou, et al., 2022). Third, applications can reach communities in remote areas that previously struggled to access public services due to limited physical infrastructure (Papavasiliou, et al., 2019).

The primary goal of using applications in public services is to create a more efficient, responsive, and inclusive service system. By leveraging digital technology, the government can provide faster and more accurate services, which in turn boosts public satisfaction and trust in public institutions (Lanin & Hermanto, 2019). Moreover, these applications aim to reduce bureaucratic burdens by automating processes that were previously handled manually, allowing government employees to focus on more strategic tasks (Firman, et al., 2024).

The implementation of technology-based applications to enhance the efficiency, transparency, and accessibility of public services doesn't always go smoothly. This makes an in-depth analysis of public service applications crucial. Such analysis is necessary to identify factors influencing

implementation success or failure, including system quality, user satisfaction, and infrastructure challenges (Ramos et al., 2022).

Furthermore, analyzing public service applications is important for understanding their impact on public satisfaction and trust. Good service quality, including speed and transparency, can boost public satisfaction, whereas application failures can undermine trust in public institutions (Lanin & Hermanto, 2019). Challenges like limited infrastructure, low digital literacy, and unsupportive regulations also need to be addressed through comprehensive analysis (Turner, et al., 2022). By conducting such analysis, the government can design more effective strategies to optimize the use of public service applications, ensuring inclusive services and increasing public satisfaction. Ultimately, this will strengthen government legitimacy and stability.

The impact of using applications in public services has been tangibly felt across various sectors. For example, the BPJS Kesehatan app has made it easier for people to access healthcare services, while e-government applications like iJATENG in Central Java have boosted the efficiency of public services in that region. Based on findings from the Central Java Provincial Archives and Library Office, the iJATENG application has significantly streamlined the process of acquiring and presenting digital collections. Digital books are now provided directly by partner publishers, eliminating the need for manual processing. This saves librarians' work time and enhances their productivity in uploading collections for public access.

On the user's side, this application has demonstrably accelerated access to information, allowing people to find and read collections in just about three minutes. This is supported by features like a table of contents and bookmarks, which simplify navigation. Furthermore, student users of the application also reported that iJateng was incredibly helpful for completing final assignments and making quick decisions based on available references. Its unlimited accessibility (anytime, anywhere) and ease of use make the iJateng application a prime example of effective and efficient digital public service. Thus, iJateng not only supports the optimization of internal institutional performance but also expands the reach and quality of information services to the wider community in Central Java (Fahlevi & Dewi, 2019). However, this impact isn't yet uniform across all of Indonesia, particularly in regions still lagging in terms of infrastructure and human resources (Setyoko, et al., 2021).

The urgency for this article stems from the need to identify factors influencing the success or failure of public service applications. For instance, a study by Ramos et al., (2022) revealed that system quality and user satisfaction are key factors in the success of online queuing applications.

Moreover, this article is crucial for understanding the impact of public service applications on public satisfaction and trust. Good service quality, including speed and transparency, has been proven to increase public satisfaction (Lanin & Hermanto, 2019). However, if applications aren't well-designed, they can actually reduce trust in public institutions. Therefore, the trend analysis in this article can help governments and application developers design more effective and responsive solutions to meet public needs.

LITERATURE REVIEW

Building on prior research, this study aims for a broader and more detailed analysis of public service applications. Our goal is to pinpoint the most frequently used methods, identify trends in public service application analysis, and determine the factors influencing service satisfaction. This will help us refine and improve upon previous studies. In analyzing public service applications, various models and theories are used to evaluate technology acceptance, application performance, and user impact. Common models applied in this context include the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the DeLone & McLean IS Success Model. These three models provide useful frameworks for understanding how users interact with public service applications and the factors that influence their adoption and effectiveness.

The Technology Acceptance Model (TAM), developed by Davis (1989) explains how users adopt and utilize technology. In the context of public service applications, TAM focuses on two primary factors: Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). Both of these factors influence users' attitudes toward an application, ultimately impacting their decision to adopt the technology. Perceived Usefulness (PU) suggests that public service applications deemed useful by the community will be more readily accepted. For example, applications that enable citizens to pay taxes, process permits, or quickly and efficiently obtain public information tend to be better received. Meanwhile, Perceived Ease of Use (PEOU) means that applications that are easy to use, without technical or procedural hurdles, will be preferred. In public services, applications with simple and intuitive user interfaces will encourage wider adoption. Research by Venkatesh, Morris, Davis, & Davis (2022) indicates that user acceptance of technology is significantly influenced by their perceptions of the technology's ease of use and benefits. In the context of public service applications, applying TAM can help analyze the factors influencing public adoption of these applications.

Research by Fahlevi & Dewi (2019) on the iJATENG application showed that perceived usefulness had a greater influence than perceived ease of use. Similar results were also found in a study by Yudiana, Setiyani, & Ningrum (2021) on the BPJS Kesehatan application, where perceived usefulness played a dominant role in increasing the intention to use the application.

The UTAUT (Unified Theory of Acceptance and Use of Technology) model, developed by Venkatesh et al. (2022), is a more comprehensive method that integrates several earlier technology acceptance theories, including TAM. UTAUT identifies four main factors influencing technology adoption. Performance Expectancy (PE) relates to the extent to which users believe that using a public service application will enhance their performance (e.g., making public services easier to access). Effort Expectancy (EE) measures how easy users perceive the application to be in terms of use and understanding. Social Influence (SI) refers to the social influence or opinions of others on an individual's decision to use an application. For public service applications, recommendations from friends, family, or colleagues about an app's benefits can sway adoption. Facilitating Conditions (FC) refers to the availability of resources and technical support that enable users to smoothly use an application, such as compatible devices, stable internet connection, and government technical support. A study by Silvia Nilam Sari, Widhy Hayuhardhika Nugraha Putra, & Bondan Sapta Prakoso (2020) that discussed the UTAUT method to the queuing system at the Sidoarjo Public Service Mall confirmed that performance expectancy and social influence significantly impact application acceptance. Similar research by Roz & Farianto (2021) on online queuing services at Surabaya Immigration also showed that social support from the work environment influenced technology adoption.

DeLone & McLean (1992) introduced a method for measuring the success of information systems (IS). This model identifies six factors used to evaluate a system's success. *System Quality* relates to the technical quality of the public service application, such as system reliability, access speed, and user interface. *Information Quality* pertains to the quality of information provided by the application, including data accuracy, information currency, and clarity of information given to users. *Service Quality* is a measure of the quality of technical services provided to users, encompassing technical support and customer service. *Use* quantifies how often the application is utilized by the public for its intended purpose. *User Satisfaction* gauges the level of user contentment with the public service application, which can include factors like ease of use and how well the application meets user needs. *Net Benefits* refers to the advantages gained by users or the public from using the

application, such as increased efficiency, time savings, and improved service accessibility. This model is frequently applied in the analysis of public service applications to measure the effectiveness and performance of applications used by the public. A study by Ramos et al. (2022) on the online passport queuing application at the Bogor Immigration Office demonstrated that system and information quality play a significant role in enhancing user satisfaction. This finding is reinforced by research from Rahayu, Darmansyah, & Marchendra (2022) which examined the Transformer Management (MANTRAP) application at PLN, also concluding that service quality significantly contributes to user satisfaction.

Various analytical methods in public service application studies indicate that measuring user satisfaction is a central aspect in evaluating the effectiveness of system implementation. This satisfaction is assessed through a combination of indicators derived from models like TAM, UTAUT, and DeLone & McLean, which encompass dimensions such as perceived ease of use, functional benefits, system quality, and perceptions of the services provided. Generally, the most frequently used method for analyzing public service application satisfaction is the Technology Acceptance Model (TAM). This is because TAM directly assesses users' perceptions of an application's usefulness and ease of use, which are highly correlated with their satisfaction. Meanwhile, DeLone & McLean enrich this understanding by adding elements of information and service quality, while UTAUT helps explain how expectations and environmental support contribute to positive perceptions of the application. The combination of indicators from these models forms a strong basis for formulating more responsive public service application development strategies that meet community needs.

Systematic Literature Review (SLR) is a research method used to systematically identify, evaluate, and synthesize research findings relevant to a specific research question. This method aims to provide a comprehensive overview of a research topic by following structured and planned stages. In practice, SLR is conducted through three main phases: planning, conducting, and reporting. During the planning phase, researchers must formulate specific and clear research questions, which will then guide the literature search and extraction process. A common method used for formulating research questions is PICOC (Population, Intervention, Comparison, Outcome, Context). Next, in the conducting phase, the literature search strategy becomes a crucial step in finding articles relevant to the research topic. This is done by determining appropriate search strings to increase the accuracy of the literature search. After obtaining various relevant articles, the study selection phase involves establishing inclusion and exclusion criteria, such as study type, publication year range, and the

article's relevance to the research question. Articles that pass the selection process are then analyzed through data extraction and synthesis to obtain information that systematically answers the research questions. Finally, in the reporting phase, the results of the SLR are compiled into a structured research report, which typically includes an introduction, methods, results, discussion, and conclusion.

In various fields of study, such as information systems and computer science, SLR is frequently used to summarize research steps based on publications in high-quality journals. For instance, a study published in an information technology journal outlines four main stages of conducting an SLR: defining research objectives, initiating and selecting literature, analysis and coding, and planning to present the results. That study also discusses quality assessment criteria in SLR and critiques of the approach. Several key references often used in SLR studies, such as Staffs (2007), which provides guidelines for conducting SLRs in software engineering, and Schmeisser (2013), who developed a methodology for systematic reviews in evidence-based management. Additionally, Okoli & Schabram (2012) also compiled a guide for conducting SLRs in information systems, covering strategies for searching, selecting, and synthesizing relevant literature. By following systematic stages and procedures, the SLR approach can help researchers build a strong theoretical foundation and make significant contributions to the advancement of research across various disciplines.

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is a reporting guideline designed to enhance transparency and completeness in the preparation of systematic reviews and meta-analyses. This guideline provides a checklist covering essential items that must be described in detail to ensure the research has a clear methodology and can be replicated by other researchers (Moher, Liberati, Tetzlaff, & Altman, 2009). In the context of research in Indonesia, PRISMA has been widely adopted by researchers to ensure that the systematic review process is comprehensive and transparent. For example, in a presentation by Putu Wuri Handayani during the Information Systems Research Workshop at the Faculty of Computer Science, University of Indonesia, she explained that PRISMA consists of five main stages. The stages consist of defining eligibility criteria by setting inclusion and exclusion boundaries for literature, defining information sources by establishing the databases or other sources to be used, conducting literature selection based on the predefined criteria, collecting data from the selected literature, and determining specific data items to be extracted and analyzed (Handayani, 2017). By following these stages, PRISMA ensures that the literature review process is conducted systematically, objectively, and accountably.

Across various researches in Indonesia, PRISMA has been adopted as a standard for conducting systematic reviews in disciplines including health, management, and information technology. For example, research in management often uses PRISMA to compile literature reviews on the latest research trends in a specific topic, ensuring a systematic methodology (Ganesha, 2022). Furthermore, in the health sector, PRISMA is frequently employed for meta-analyses of various clinical research findings to draw stronger conclusions regarding the effectiveness of medical interventions. According to a document published by a lecturer at Perbanas Institute, the implementation of PRISMA in academic research in Indonesia has helped improve research quality by providing a clear and standardized framework. By using PRISMA, researchers can avoid bias in literature selection and analysis, making research results more trustworthy and impactful in scientific development. Therefore, the use of PRISMA in Indonesian research demonstrates academics' commitment to following international standards to produce high-quality and reliable research.

RESEARCH METHOD

This research aims to understand trends in public service application analysis through a systematic approach using the PRISMA framework. This literature review integrates various theories and findings from several relevant journals to build a strong theoretical foundation. Previous research titled *Systematic Literature Review of Queuing Applications Using the PRISMA Approach* by Sulistiyawan (2024), also utilized the PRISMA approach, but focused specifically on the analysis of queuing applications in public services. That study found that the Technology Acceptance Model (TAM) was the most frequently used method, predominantly with a quantitative approach.

This research uses a Systematic Literature Review (SLR) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach. SLR was chosen because it enables a comprehensive and systematic collection and analysis of data from numerous sources. This allows for a complex and in-depth overview of research developments in this field. Furthermore, the PRISMA method in this research is used to analyze research trends, specifically to understand public acceptance of the public service applications being used.

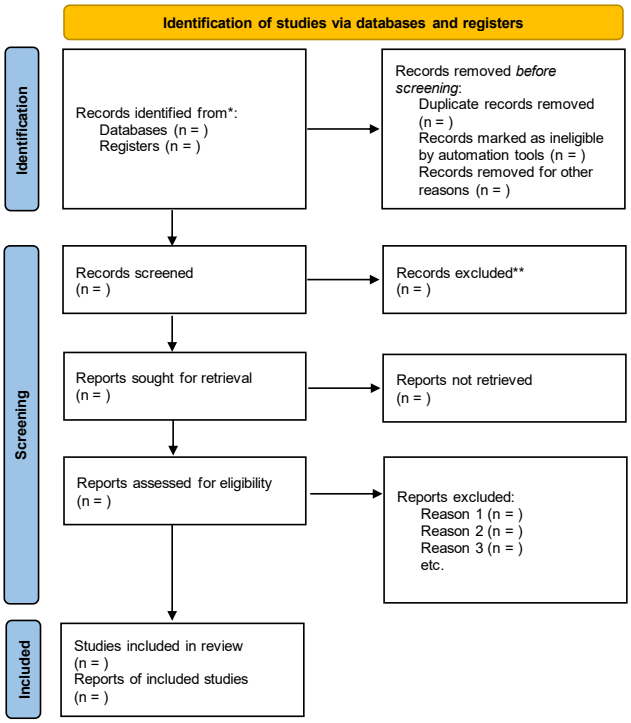

Figure 1. PRISMA 2020 Flow Diagram
Sumber: www.prisma-statement.org

Based on the figure above, the steps involved in conducting this research are as follows:

Identification Study

The first step in the PRISMA method is to identify relevant literature sources from various origins. Studies can be gathered from scientific databases such as Crossref, Google Scholar, Semantic Scholar, OpenAlex, or from relevant research registries. This identification process includes collecting studies indexed in SINTA and Scopus.

Screening Study

After identification, the next step is screening to ensure its relevance to the study topic. The initial screening is based on titles and abstracts, where irrelevant studies are filtered out. Studies that pass this first stage will then have their full texts retrieved for further analysis. However, sometimes not all documents can be found or accessed. If any documents can't be obtained, their number must be recorded to maintain transparency in the process. The criteria for this initial screening are that studies must have been published within the last five years (between 2020 and 2024) and identify important theories and results concerning the analysis of a public service application. Articles were searched using the keywords *analisis aplikasi* (application analysis) and *pelayanan publik* (public

service) via the Harzing's Publish or Perish software. Studies meeting all criteria will be included in the systematic review. The final number of included studies is recorded and will form the basis for further analysis.

Table 1. Data collection

Source	Studies found (based on keywords)		Candidate	Selected
	Service Application Analysis	Queue Management		
Crossref	1000	325	73	8
Google Scholar	363	180	57	5
OpenAlex	1000	254	40	7
Semantic Scholar	18	8	6	3
Garuda	20	10	6	3
Total	2401	777	182	26

Included Study

At this stage, the full-text reports of the filtered studies will be examined in more depth to determine if they truly meet the previously established criteria. Studies that do not align will be excluded due to factors such as a lack of relevance to the research topic, study objectives not matching this research, or study subjects from the source not aligning with this research's goals. This stage is important to ensure that only valid and relevant studies are analyzed in the systematic review. The data collected from these studies will then be used to answer the research questions formulated at the beginning.

The final step involves charting and analyzing the data from the selected studies. For reporting, a PRISMA flow diagram is used to illustrate the number of studies at each selection stage, from identification through to final inclusion. Data analysis can be performed as a narrative synthesis, where research findings from various studies are descriptively compared, or as a meta-analysis, where quantitative data from multiple studies are combined to derive stronger conclusions:

Several studies have analyzed the acceptance and successful implementation of public service applications across various sectors, employing diverse theoretical approaches and methods. For instance. Ramos et al. (2020) in their article *Analisis Kesuksesan Aplikasi Pendaftaran…* (Analysis of the Success of Registration Application...) used the DeLone and McLean method with a quantitative approach for the immigration sector. Ramos et al. (2022) conducted similar research in

The Success of Online Passport… using the same method and sector. Meanwhile, Silvia Nilam Sari et al. (2020) studied *Analisis Penerimaan Penggunaan Aplikasi Antrian…* (Analysis of Queuing Application Acceptance...) by applying the UTAUT method quantitatively to the Public Service Mall (MPP) sector.

Fahlevi dan Dewi (2020), in their study *Analisis Aplikasi iJateng…* (The Analysis of iJateng application...) used a qualitative approach with the TAM (Technology Acceptance Model) method within the Public Service Mall (MPP) sector. Similarly Dinata et al. (2020) also employed a qualitative TAM method in their research *Evaluasi Sistem Pendaftaran Online…* (The Evaluation of Online Registration System...) focusing on the hospital sector. Meanwhile, Yudiana et al. (2021) wrote *Analisis Penerimaan Aplikasi BPJS…* (The Analysis of BPJS Application Acceptance) using a quantitative TAM approach in healthcare facilities.

Roz dan Farianto (2021) examined *Analisis Penerimaan Pengguna…* (User Acceptance Analysis...) using a quantitative TAM method in the immigration sector. Nugroho dan Lukito (2021) in their *Analisis Sistem Aplikasi Pendaftaran…* (Analysis of Registration Application Systems...), combined qualitative and quantitative approaches with TAM also in the immigration sector. Rahayu et al. (2022) researched *Analisis Kesuksesan Penerapan …* (Analysis of Implementation Success...) with a quantitative DeLone and McLean method in the PLN (energy) sector.

Fadilah dan Surya Negara (2022) in "Analysis of Factors Influencing…" used a combination of UTAUT and SDT methods in explanatory research in the local government sector. Winaya et al. (2022) combined TAM, DeLone and McLean, and IPA in a quantitative study "Analysis of Taring User Acceptance…" in the Dukcapil sector.

Ginaya et al. (2022) utilized a quantitative TAM method in their study *Analisis Sistem Informasi Antrian Online RSUP…* (Analysis of Online Queuing Information Systems at RSUP...) under the Ministry of Health. Rizqulloh et al. (2022) analyzed *Analisis Faktor-Faktor yang Berpengaruh…* (Analysis of Influencing Factors...) using a quantitative TAM method in the community health center (Puskesmas) sector. Marpaung (2022) employed UTAUT 2 in the quantitative study *Analisis Aplikasi Keuangan Tingkat Instansi…* (Analysis of Institutional-Level Financial Applications...) within the Ministry of Finance.

Nita Mirantika dan Yusuf (2022) in their study *Analisis Penerimaan Teknologi M-Commerce…* (Analysis of M-Commerce Technology Acceptance...), applied a quantitative TAM method to the retail sales sector. Setiawan et al. (2022) evaluated system success in their article *Evaluasi*

Keberhasilan… (Success Evaluation...) using a quantitative Task Technology Fit approach in the hospital sector.

Kaasto et al. (2023) in their study *Analisis Kepuasan Aplikasi ULA…* (Analysis of ULA Application Satisfaction...), applied a quantitative UTAUT method to the market sector. Widyassari dan Sirojunnafis (2023) researched *Pengembangan Sistem Informasi…* (Information System Development...) using a quantitative TAM method in the hospital sector. Zefan Adiputra Golo et al. (2023) in their article *Analisis Pelaksanaan Sistem Puskesmas…* (Analysis of Puskesmas System Implementation...), employed a qualitative TAM method in the community health center (Puskesmas) sector.

Wafa Khairunnisa et al. (2023) applied a C-TAM-TPB approach quantitatively for the Ministry of Health in their article *Analisis Penerimaan Pengguna Aplikasi Mobile JKN…* (Analysis of Mobile JKN Application User Acceptance...). Wafi et al. (2023) used a qualitative TAM method in their research *Analisis Penggunaan Pendaftaran Online (SIST-BrO)…* (Analysis of Online Registration Usage (SIST-BrO)...) in the community health center (Puskesmas) sector. Liang et al. (2024) in their study *Analisis Kesuksesan Aplikasi M-Paspor…* (Analysis of M-Paspor Application Success...), combined qualitative and quantitative approaches using DeLone and McLean within the immigration sector.

Pita Melati Sulkani (2024) in *Analisis Tingkat Penerimaan Pengguna…* (Analysis of User Acceptance Level...), applied a quantitative TAM approach within the community health center (Puskesmas) sector. Amalia et al. (2024) researched *Analisis Pengendalian Internal…* (Analysis of Internal Control...) using a qualitative TAM method at the Post Office. Finally, Kamila et al. (2024) in *Analisis Faktor-Faktor Penerimaan Sistem Informasi Rumah Sakit…* (Analysis of Factors Influencing Hospital Information System Acceptance...), combined qualitative and quantitative approaches with the TAM method in the hospital sector.

RESEARCH RESULT

Following the research conducted using the PRISMA method on relevant studies, we've observed significant advancements in the utilization of technology within public services across various sectors. The implementation of digital systems is expanding, with trends varying across different periods. This reflects changes in community needs and the government's efforts to enhance technology-driven service quality. Furthermore, the analytical methods employed in public service

application research show specific tendencies over the last five years, with certain models being more dominant in evaluating the acceptance and success of technology implementation.

Based on an analysis of 26 relevant studies, we conclude findings regarding technology utilization in public services over the last five years. Technology adoption in public services has seen rapid growth. The health sector leads the research focus at 30%, followed by the immigration sector (25%), public service malls (MPP) at 15%, local government at 10%, and both the energy and financial sectors each at 5%. The Technology Acceptance Model (TAM) remains the most frequently used method for evaluating application acceptance, appearing in 15 studies (60%). The DeLone and McLean method was used in 5 studies (20%), and the Unified Theory of Acceptance and Use of Technology (UTAUT) in 3 studies (15%). Other methods, such as Task Technology Fit, and combined approaches (e.g., UTAUT with Self Determination, TAM with DeLone and McLean, or TAM with Theory of Planned Behavior), each accounted for 2.5% of the studies Further analysis identified the prevalent research approaches. TAM studies predominantly used a quantitative approach (10 studies), with 3 studies employing a qualitative approach and 2 studies using a mixed method. DeLone & McLean studies were mainly quantitative (3 studies), with only 1 study using a mixed method. All UTAUT studies (3 studies) exclusively adopted a quantitative approach. The single "other method" study and all three combined-method studies also used a quantitative approach.

The most frequently analyzed factors in the selected 26 studies for this research include system quality (20 studies), information quality (19 studies), perceived ease of use (18 studies), service quality (15 studies), user satisfaction (12 studies), and external factors such as performance expectancy and social influence (8 studies). Furthermore, challenges in implementing public service applications were a significant concern. The main obstacles identified across these studies include a lack of public dissemination and education (15 studies), the digital divide (12 studies), infrastructure limitations (10 studies), resistance to change (8 studies), and suboptimal regulations (6 studies).

DISCUSSION

In terms of technological advancements, our research shows that digitalization of public services has been implemented across various sectors, with healthcare being the most dominant. A significant 30% of studies focused on healthcare applications like Mobile JKN, Puskesmas Tanpa Antrian (PUSTAKA), and hospital information systems. This highlights that digital transformation in healthcare is a top priority for improving public services. The immigration sector also received

considerable attention, accounting for 25% of the research, with a focus on online passport queuing systems and M-Paspor. Following that, Public Service Malls (MPP) comprised 15% of studies, indicating that integrated digital public service systems are also a key research interest. Local government and ministerial sectors each held 10% of the research, emphasizing the implementation of applications like MonSakti at the Ministry of Finance and various regional information systems. Meanwhile, the energy (PLN/State Electriticy Company) and financial sectors had fewer studies, each at only 5%, which suggests that digitalization in these sectors is still in the development phase.

The analysis of application trends reveals that the Technology Acceptance Model (TAM) is the most frequently used method for assessing application acceptance and success. Around 60% of studies employed TAM, indicating that most research focuses on how users accept technology based on its perceived ease of use and usefulness. Moreover, 20% of studies used the DeLone & McLean Information System Success Model (D&M IS Success Model) to evaluate application success by examining information quality, system quality, and user satisfaction. Meanwhile, 15% of research utilized the Unified Theory of Acceptance and Use of Technology (UTAUT), which considers external factors like performance expectancy, social influence, and facilitating conditions. Other methods, such as Task Technology Fit (TTF) and Combined Technology Acceptance Model and Theory of Planned Behavior (C-TAM-TPB), were only found in 5% of studies, suggesting they are less common in the Indonesian public service context. Regarding research approaches, 80% of studies adopted a quantitative method, highlighting researchers' tendency to rely on statistical analysis to measure technology acceptance and user satisfaction. Quantitative methods typically involve surveys and questionnaires to collect large-scale user data. Meanwhile, 10% of research used a qualitative approach, focusing more on interviews and case studies to deeply understand user experiences. The remaining 10% employed mixed-methods, combining both quantitative and qualitative approaches to gain a more comprehensive understanding of technology acceptance in public services.

In studies about public service applications, system quality emerged as the most frequently analyzed factor, appearing in 80% of research. This highlights its crucial role in determining an application's success. Information quality was also a primary focus in 75% of studies, indicating the importance of clear and accurate information for users of public service apps. Both perceived ease of use and perceived usefulness were examined in 70% of studies, confirming these as key factors in public technology acceptance. Service quality was another frequently analyzed variable, with 60% of research discussing how services provided by the app impact user satisfaction. Furthermore, user

intention and user satisfaction were each explored in 50% of studies, showing that evaluating an application's continued use is vital for measuring system success. Finally, external factors like performance expectancy, social influence, and facilitating conditions were analyzed in 30% of studies, demonstrating their influence on public decisions to adopt or reject app usage.

This research's analysis also includes a discussion of the trends observed over the last five years regarding the public sector's evolving use of technology and the development of research methods over time. Moreover, this study reflects the government's adaptive efforts to integrate digital technology as part of a more inclusive and sustainable public service strategy. The use of analytical models like TAM, UTAUT, and DeLone & McLean not only points to methodological tendencies but also highlights the complex aspects that need consideration when evaluating digital public applications. This shows that measuring the success of public service applications can't rely on just one dimension. Instead, it requires a multidimensional approach that includes internal factors like technical features and ease of use, as well as external factors such as policy, community participation, and infrastructure readiness.

The trends observed in public service sectors undergoing research reveal a shift and broadening of focus over the years. In 2020-2021, the dominant sectors studied were immigration and healthcare. Research during this period primarily concentrated on the efficiency of online queuing systems and health information systems, with applications like M-Paspor, online passport queuing services, Mobile JKN, and hospital applications. Moving into 2022, the scope of public service sectors under scrutiny expanded to include Public Service Malls (MPP), energy (PLN), and population administration (Dukcapil). Research began to consider external factors such as infrastructure readiness, government support, and facilitating conditions in the implementation of digital applications, indicating a more holistic approach to assessing digitalization success. By 2023-2024, the research focus became even more diverse, encompassing new sectors like MSMEs, finance, and internal control of postal services. Studies became more oriented towards evaluating system success and the integration of digital services across institutions, reflecting the need for collaboration and interoperability in public services. Additionally, there was a significant increase in research related to digital literacy and public readiness to adopt public service technology, demonstrating an awareness of the important social and educational aspects supporting digital transformation. This evolution illustrates that research trends in public services continue to develop in line with the increasing complexity and demands for more integrated, inclusive, and sustainable services.

Another key finding emphasizes the critical need for improved digital literacy among the public for successful adoption of public service applications. Low digital literacy can pose a serious barrier, even if applications are designed with intuitive interfaces and relevant features. In this context, training and education for the public become an integral part of technology implementation strategies. The government, therefore, shouldn't just provide applications but also ensure the community has the competence to use them optimally. Moreover, studies found a strong correlation between the quality of digital services and public trust in government institutions. Thus, the digitalization of public services isn't merely a tool for efficiency, but also an instrument to strengthen bureaucratic legitimacy and enhance the quality of digital democracy in Indonesia.

The evolution of research methods in public service application analysis shows an interesting dynamic year by year. In 2020-2021, the dominant methods were the Technology Acceptance Model (TAM) and the DeLone & McLean IS Success Model. Research during this period largely centered on user acceptance of technology, emphasizing factors like perceived ease of use, usefulness, and user satisfaction. The most frequently studied sectors were immigration and healthcare, specifically focusing on online passport queuing applications, hospital systems, and BPJS services. Moving into 2022, research methods began to evolve with the emergence of the Unified Theory of Acceptance and Use of Technology (UTAUT) and mixed methods such as TAM + Importance Performance Analysis (IPA). The research focus shifted towards evaluating the success of application implementation, considering system quality, information quality, and external factors like performance expectancy and social influence. The research sectors also expanded, covering Public Service Malls (MPP), energy (PLN), and population administration (Dukcapil). By 2023-2024, research methods became even more diverse. Although TAM remained dominant, there was a significant increase in the use of mixed methods like TAM + DeLone & McLean and UTAUT 2 to explore external factors influencing technology adoption more deeply. Additionally, methods such as Task Technology Fit (TTF) and Combined TAM & Theory of Planned Behavior (C-TAM-TPB) began to be used in research related to hospital information systems and digital economy-based applications. The research focus expanded beyond mere user acceptance to discuss the effectiveness of public service digitalization policies, social impact, and the integration between service systems. The research sectors became more varied, including digital marketplaces (MSMEs), finance (MonSakti – Ministry of Finance), and internal control of postal services. Nevertheless, the healthcare sector remained the most researched, particularly in evaluating the success of digital hospital and

community health center information systems. This development indicates that research in public services continues to evolve in line with the increasing complexity and need for more effective and inclusive digitalization.

The findings of this research align with the public service quality theory proposed by Zeithaml, Parasuraman, and Berry, which states that service quality is influenced by five core dimensions: reliability, responsiveness, assurance, empathy, and tangibles. The finding that system and information quality play a vital role in technology acceptance reflects the dimensions of reliability and responsiveness. This means that services which are fast, accurate, and dependable will enhance the public's positive perception of public services. Furthermore, the perceived ease of use and usefulness of an application strongly correlate with the dimensions of assurance and empathy, as user-friendly systems demonstrate an institution's concern for user convenience and service certainty.

Furthermore, the New Public Service (NPS) and Public Value Management (PVM) approaches emphasize the importance of creating public value and actively involving the community in the service process. In this context, the increase in digital literacy and the use of public applications doesn't just reflect technical success, but also strengthens the values of participation, transparency, and accountability. These dimensions are also indicators of public service oriented towards citizen satisfaction and trust. Therefore, integrating these public service theories not only enriches the understanding of research findings but also provides a normative foundation for formulating future public policy strategies.

CONCLUSION

In the last five years (2020-2024), the use of technology in public services has rapidly advanced across various sectors. Initially, research primarily focused on immigration and health, particularly in implementing online queuing systems and digital health services. However, in the last three years, technology adoption has expanded to Public Service Malls (MPP), energy, population administration, MSMEs, the financial sector, and postal services. Digitalization in public services not only aims to boost service efficiency and accessibility but also to support the implementation of e-government and smart city concepts. Beyond the expansion of sectors, research trends also indicate a shift in focus from merely evaluating user acceptance of technology to analyzing the success of implementation and the impact of digitalization policies. Recent studies increasingly examine external factors

influencing the effectiveness of application implementation in public services, including government policies, infrastructure readiness, and social challenges in technology adoption.

Research methods used to analyze public service applications have seen changes and developments over the past five years. The Technology Acceptance Model (TAM) remains the most dominant method from 2020 to 2024, primarily used to assess technology acceptance based on users' perceived ease of use and usefulness. However, recent studies indicate that TAM is increasingly being combined with other methods to achieve more comprehensive analyses. Beyond TAM, other models are gaining traction. The DeLone & McLean Information System Success Model is increasingly utilized, focusing on evaluating system quality, information quality, and user satisfaction. The Unified Theory of Acceptance and Use of Technology (UTAUT) has also become widely adopted, especially in research examining external factors like performance expectancy and social influence. Furthermore, the Task Technology Fit (TTF) and Combined TAM & Theory of Planned Behavior (C-TAM-TPB) methods have appeared in some studies to analyze the alignment between technology and user needs, as well as behavioral factors influencing technology acceptance in public services. Alongside these shifts in analytical methods, research approaches have also evolved. While studies in 2020-2021 primarily focused on user acceptance of technology, research from 2022-2024 has become more oriented toward evaluating the success of application implementation and the broader impact of digitalization policies.

When it comes to determining user satisfaction with public service applications, several key factors are considered. System quality, information quality, and perceived ease of use are the most frequently analyzed factors. This indicates that system reliability and information accessibility play an important role in an application's success. Furthermore, service quality and user satisfaction are also primary focuses in research, especially within the DeLone & McLean and TAM methods, which evaluate how systems provide tangible benefits to their users. External factors like performance expectancy, social influence, and infrastructure and regulatory readiness are also starting to gain attention in research using the UTAUT method. Recent studies have also begun to examine challenges in application implementation, including a lack of information dissemination and education, the digital divide, infrastructure limitations, and resistance to change. These factors demonstrate that user satisfaction isn't solely influenced by the technical aspects of an application, but also by the social environment and policies that support technology adoption in public services.

The final conclusion is that the utilization of technology in public services continues to evolve, with more sectors adopting service digitalization. The TAM remains the primary method used in research, but recent trends show it's being combined with other models like DeLone & McLean, UTAUT, and TTF for broader analysis. When determining satisfaction with public service applications, system quality, ease of use, and user satisfaction remain key factors. Meanwhile, external factors are gaining attention in recent research. The shift in research focus from mere user acceptance to evaluating implementation success indicates that the digitalization of public services in Indonesia is maturing and requires a more comprehensive approach to ensure its effectiveness.

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