

# Optimization of Deed Printing Services Through the AKUDICARI System at the Population and Civil Registration Office of Badung Regency

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## Article Info

### Article history:

Received June, 2025

Revised June, 2025

Accepted June, 2025

### Keywords:

AKUDICARI, Optimization, Services, Badung Population and Civil Registry Office

## ABSTRACT

AKUDICARI system is a digital innovation designed to facilitate deed printing services in Badung Regency by providing efficient and transparent online access for the public. The implementation of this system has increased user satisfaction through ease of access, acceleration of the administrative process. This system is designed with the aim that data archives owned by the public can be accessed in real-time. However, there are still significant challenges, especially related to the digital literacy gap and limited technological infrastructure in several areas, especially in rural areas. This study aims to analyze the optimization of services using the AKUDICARI website in civil registration. The method used is a qualitative literature study that analyzes findings from several journals. Efforts to improve digital education, improve internet networks, and develop responsive and inclusive system features are needed to optimize this service. The results of the study indicate that the AKUDICARI system has the potential to become an effective and sustainable digital population administration service model in supporting the digital transformation of government and making people's time more efficient at DISDUKCAPIL.

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## 1. INTRODUCTION

Public administration services are the backbone of state administration in guaranteeing the civil rights of its citizens. One of the most fundamental forms of this service is population administration, including the recording of birth certificates, death certificates, marriages, and divorces. These documents not only serve as legal evidence, but also serve as an important basis for obtaining various other social rights such as education, health services, social security,

and participation in democratic processes. In Indonesia's vast and pluralistic context, the challenge in population administration services lies not only in geographical coverage, but also in a bureaucratic system that is slow, less transparent, and not yet fully technology-based.

According to the Ministry of Home Affairs (Disdukcapil Badung, 2023), around 8 million Indonesian children do not have birth certificates, even though this document is a basic right guaranteed by law. In addition, the

Ombudsman of the Republic of Indonesia noted that population services are one of the categories of public services that are most complained about by the public every year, especially related to process delays, data mismatches, and illegal levies. This indicates that the service system run by the Population and Civil Registration Office (Disdukcapil) in various regions is still unable to answer the expectations of the community who increasingly demand fast, easy, and transparent services.

Disdukcapil, as a regional technical institution directly responsible for population administration affairs, plays a central role in realizing bureaucratic reform and improving the quality of public services at the grassroots level. In accordance with the mandate of Law Number 24 of 2013 concerning Population Administration, the Disdukcapil is tasked with providing population document services in a professional, accountable, and free of charge. However, in practice, limited human resources, weak system integration, and resistance to digital change are often obstacles that hinder service optimization.

To answer this challenge, the Badung Regency Government through the Disdukcapil launched the AKUDICARI (Independent Civil Registry Document Needs Application) digital system. This innovation aims to facilitate the community in taking care of population documents independently, without having to wait in long lines at service offices. This system allows users to upload documents, monitor the verification process, and choose the location and time of completed document retrieval. The role of the Badung Disdukcapil in this case is very crucial, not only as a service provider, but also as an agent of change in the digital transformation of local government.

From a theoretical perspective, innovations such as AKUDICARI can be analyzed through various approaches. First, the Technology Acceptance Model (TAM) approach from Davis (1989) explains that the adoption of technology by the community is highly determined by the perception of the perceived ease of use and perceived

usefulness of the technology. The AKUDICARI system is proven to accommodate these two aspects through a friendly user interface as well as efficient digital processes. Second, the theory of New Public Management (Hood, 1991) encourages the principles of efficiency and excellent service in the public bureaucracy through the application of private sector managerial mechanisms. AKUDI is in line with the principles of NPM because it focuses on results, accountability, and measurable performance.

In addition, the concept of e-Government as explained by Heeks (2006) is an important framework in understanding the transformation of digital-based public services. Heeks underlined that the application of information technology in government services is not just the digitization of documents, but the transformation of organizational culture, workflows, and relationships between the government and its citizens. In this context, the role of the Badung Disdukcapil as an implementing institution must be seen not only as a system operator, but as a main actor in changing the governance of population services that are more responsive and adaptive to the needs of modern society.

On the other hand, the good governance approach as defined by UNDP (1997) emphasizes the importance of participation, accountability, and transparency in public services. The AKUDICARI system provides space for citizens to not only become service recipients, but also active actors involved in the service process. The public can provide direct input, monitor the process in real-time, and assess the quality of services received. This shows that the system is not only oriented towards technical efficiency, but also reinforces the principles of democracy and citizen involvement in public governance.

The latest statistics from the Badung Disdukcapil (2023) show that more than 40,000 deed documents have been processed through AKUDICARI since its launch. The user satisfaction rate increased sharply from

52% in 2021 to 89% in 2023. This figure not only reflects the success of technology implementation, but also shows how bureaucratic reform through digitalization can answer various classic public service problems such as queues, unclear information, and long waiting times.

However, this success still leaves challenges, especially related to the digital literacy gap of the community, the limitations of technology infrastructure in rural areas, and the readiness of the Disdukcapil apparatus in adopting and managing the digital system optimally. Therefore, optimizing the AKUDICARI system requires a cross-sectoral collaborative approach: human resource training, community education, and sustainable investment in technology infrastructure. The key to the long-term success of this system lies not only in its technological sophistication, but also in the institutional capabilities of Disdukcapil and the active involvement of the community as service users.

Against this background, this study aims to evaluate the effectiveness of the AKUDICARI system in Badung Regency, as well as explore the factors that support and hinder the successful implementation of this service. A literature review approach and theoretical synthesis are used to analyze how digital transformation in population services plays a role in improving the quality of public services at the regional level and as a model that has the potential to be replicated in other regions.

## 2. LITERATURE REVIEW

### 2.1 AKUDICARI

AKUDICARI stands for Fast and Integrated Digital Deed Printing Application, an information technology-based population administration service system developed by the Population and Civil Registration Office (Disdukcapil) of Badung Regency. This system is designed to make it easier for the public to access birth, death, and other population document printing services through a digital platform that can be accessed online (<https://akudicari.badungkab.go.id/>).

AKUDICARI presents solutions to various conventional service constraints, such as long queues, long processing times, and limited operating hours of government offices.

The system has key features such as online document requests, real-time tracking of submission status, notifications through notifications, and flexible document retrieval options, either in person at the office or by mail. Thus, AKUDICARI aims not only to improve the efficiency and speed of services, but also to guarantee transparency and accountability in the population administration process. The development of AKUDICARI is part of the digital transformation of local governments in order to realize public services that are more inclusive and responsive to the needs of the community in the current digital era.

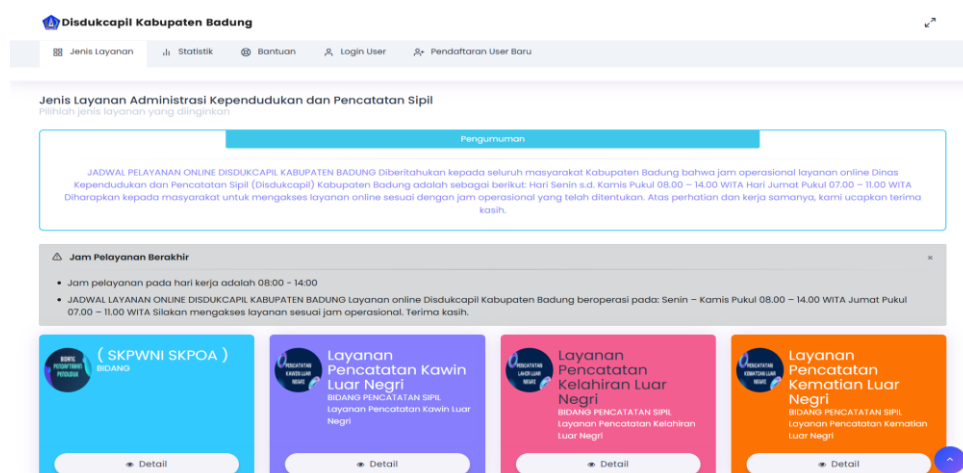


Figure 1. AKUDICARI Display

The AKUDICARI system uses an intuitive interface design that is easy to understand for various ages and educational backgrounds. This is important so that users of different demographics can access the service without experiencing technical difficulties. Based on a literature review and the results of previous studies, user-friendly systems greatly contribute to increasing the adoption rate of public service technology (Pratama, 2021). In addition, the system's real-time integration with population databases allows for fast and accurate data validation thereby minimizing administrative errors and document fraud.

The notification and application status tracking feature also strengthens the transparency of the service, allowing the public to know firsthand the progress of the application without the need to contact the officer manually. This approach reduces face-to-face interaction which has been one of the sources of problems in population administration services, such as corruption and abuse of authority (Sari & Wibowo, 2022). Thus, AKUDICARI not only provides convenience and acceleration of services, but also plays a role in increasing accountability and local governance.

## 2.2 Digital Public Services

Digital public service is one of the main pillars in the development of modern governance. This concept refers to the use of information and communication technology to improve the efficiency, transparency, and accessibility of public services to the public. According to Misuraca and Viscusi (2015), the digitalization of public services is not only about replacing manual services with online, but also involves the transformation of systems, processes, and paradigms in the interaction between the state and citizens. At the global level, the e-government model has been applied with various approaches, such as one-stop service, citizen-centric design, and open data integration, all of which aim to improve the quality of public services through technology.

In Indonesia, the concept of digitizing public services has begun to receive serious attention since the issuance of Presidential

Regulation No. 95 of 2018 concerning Electronic-Based Government Systems (SPBE). This regulation encourages all government agencies, including local governments, to integrate service processes into standardized digital systems. Some of the main principles of SPBE are process efficiency, data interoperability, and ease of access for the public. A study by Nugroho et al. (2020) shows that the success of digital public services is greatly influenced by institutional factors, infrastructure readiness, digital literacy of users, and regional leadership in encouraging bureaucratic change. Therefore, the success of the implementation of applications such as AKUDICARI is determined not only by technology, but also by the synergy between policies, institutional capacity, and community participation.

## 2.3 Population Administration Innovation in the E-Government Era

Population administration is a very crucial sector in the context of public services because it is directly related to the fulfillment of people's civil rights. Innovation in this service is important given the many obstacles found in the field, such as lengthy manual processes, reliance on physical documents, and lack of tracking systems. In the era of e-government, digitization of population administration is a form of public service innovation that has a wide impact. According to Setiyono & Widodo (2021), digital transformation in civil registration can speed up services, lower operational costs, and improve the accuracy of population data. In addition, digital systems also minimize the potential for corruption and data manipulation because the process is recorded systematically.

The implementation of a digital-based civil registration system in various regions in Indonesia is starting to show positive results. For example, cities such as Surabaya, Yogyakarta, and Semarang have implemented application-based population document service systems with results in increasing community satisfaction and accelerating the service process. A study by Harijanti (2022) noted that the success of these

innovations is determined by interagency integration, the availability of up-to-date population data, and ease of access through mobile devices. In the context of Badung Regency, the AKUDICARI system is a real implementation of these principles. With the feature of online document upload, process tracking, and deed distribution through the nearest service point, AKUDICARI reflects the concrete efforts of local governments in realizing inclusive, efficient, and digital-based civil registration services.

### 3. METHODS

This study uses a literature research approach as the main method to analyze the optimization of deed printing services through the AKUDICARI system in Badung Regency. This method is carried out by examining various relevant secondary sources, such as scientific journals, official reports from government agencies, regulations related to population administration, documentation of local government digital policies, and credible online news and publications. The purpose of this approach is to identify key concepts, compare the practice of AKUDICARI with other e-government models, and examine the context of implementation and the challenges faced based on the available data and information. Using this method, the research can explore an in-depth understanding of the AKUDICARI system conceptually and empirically, as well as build a strong analytical framework to assess the effectiveness and sustainability of the system in the framework of digital-based public services.

### 4. RESULTS AND DISCUSSION

#### *4.1 Effectiveness of the AKUDICARI System Implementation*

The AKUDICARI (Self-Register Population Administration) system is a digital innovation launched by the Population and Civil Registration Office (Disdukcapil) of Badung Regency to make it easier for the public to take care of population documents

online. Through this platform, people can apply for documents such as birth certificates, death certificates, and marriage certificates without having to come directly to the Disdukcapil office. This process not only saves time and costs, but also reduces the potential for long queues and physical interactions, which is especially relevant in the context of the COVID-19 pandemic. According to the performance report of the Badung Regency Disdukcapil in 2023, the implementation of AKUDICARI has succeeded in significantly improving the efficiency of population administration services.

The effectiveness of AKUDICARI is also reflected in the increase in the number of document applications processed through this system. Data shows that since its launch, the number of birth certificate and death certificate applications filed online has increased significantly. This shows that people are starting to adapt and utilize digital services for their administrative needs. In addition, the application completion time has also become shorter, with an average completion time of less than 24 hours for certain documents.

Nevertheless, the implementation of AKUDICARI is not free from challenges. Some of the obstacles faced include the lack of digital literacy among the community, especially in rural areas, and limited stable internet access. This causes some people to still have difficulty accessing and utilizing AKUDICARI services optimally. According to research by Gusbhas (2021), the effectiveness of online population administration services is greatly influenced by the level of digital literacy and the availability of information technology infrastructure in the area.

To overcome these obstacles, the Badung Regency Disdukcapil has made various efforts, such as socialization and training to the public on the use of AKUDICARI, as well as improving information technology infrastructure. In addition, Disdukcapil also provides assistance services through the WhatsApp

hotline to help people who have difficulties in using this system. These efforts are expected to increase the understanding and ability of the community to make maximum use of AKUDICARI services.

The implementation of the AKUDICARI system in Badung Regency shows a fairly high effectiveness in improving the quality of population administration services. By continuing to make improvements and adjustments based on feedback from the community, as well as overcoming existing obstacles, AKUDICARI has the potential to become a digital population administration service model that can be adopted by other regions in Indonesia. This success is also in line with the government's efforts to realize efficient, transparent, and information technology-based public services.

#### **4.2 Increased Community Satisfaction**

The implementation of the AKUDICARI system has a direct impact on increasing the satisfaction of the people of Badung Regency with civil registration services. Based on an internal survey of the Badung Disdukcapil in 2023, the level of community satisfaction reached 89%, a significant increase compared to 2021 which was only 52%. This is due to several factors, including the acceleration of service times, ease of access from home, and the reduction of face-to-face interactions that were previously obstacles, especially for the elderly and people with disabilities. Features such as document status notifications, digital form filling instructions, and the option of self-collection or sending documents by post are also considered very helpful and provide a transparent and user-friendly service experience (Disdukcapil Badung, 2023).

This satisfaction is also strengthened by the qualitative assessment of the community in public evaluation forums. Many residents stated that the AKUDICARI service changed their view of the bureaucracy which had been considered slow and unresponsive. With the presence of this digital-based service, people feel more appreciated because they can access services

at any time without the need for work leave or long queues. Research by Zahwa et al. (2023) in a similar context in Jepara Regency shows that the existence of user-friendly digital platforms plays a major role in building public trust in government services (Zahwa et al., 2023).

#### **4.3 Digital Literacy and Infrastructure Challenges**

Although AKUDICARI has brought significant progress in deed printing services in Badung Regency, there are still a number of major challenges that are obstacles in the optimal use of this system, especially related to people's digital literacy. Badung Regency as an area with urban and rural areas shows a large disparity in terms of the ability to use digital technology. People in urban areas such as Denpasar and Kuta tend to be easier to access and understand the use of digital applications compared to residents in rural areas who still have limited internet access and are less familiar with technological devices. This condition causes a digital divide that has the potential to widen the disparity in population administration services between regions (Choiriyah, 2023).

In addition, infrastructure challenges are also the main problems that hinder the full utilization of AKUDICARI. Several villages and sub-districts in Badung Regency are still experiencing unstable internet network limitations and low speeds. This makes the process of submitting documents online slow and even fails, so people have to repeat the process several times which leads to frustration. The public's dependence on high-quality internet access requires local governments and telecommunication service providers to continue to expand and improve the network so that digital services can run optimally and evenly throughout the region (Disdukcapil Badung, 2023).

In addition to technical factors, other obstacles come from the aspect of knowledge and skills of the community in using digital technology. The study by Hariani et al. (2023) confirms that the successful implementation of e-government does not only depend on the availability of sophisticated systems, but is

also greatly influenced by the level of digital literacy of the community. Many residents still have difficulty understanding how to operate an application, fill out online forms, or prepare required documents in digital format. This condition creates an urgent need to conduct education and training on an ongoing basis, both through socialization at the village level, the involvement of community cadres, and direct assistance from Disdukcapil officers (Hariani et al., 2023).

To overcome these challenges, the Badung Regency Disdukcapil has begun to carry out several mitigation strategies, including conducting application use training for residents in sub-districts with low digital literacy levels, providing direct technical assistance services at the sub-district office, and collaborating with local communities to become AKUDICARI socialization agents. The local government also collaborates with telecommunication operators to improve the quality of internet networks in remote areas. This holistic approach is needed so that digital transformation in public services is not only enjoyed by certain community groups, but is inclusive and equitable, in accordance with the principles of social justice and equal distribution of services (Choiriyah, 2023; Hariani et al., 2023).

#### ***4.4 Recommendations for the Development of the AKUDICARI System***

Based on the results of the evaluation of the effectiveness and challenges of the implementation of the AKUDICARI system in Badung Regency, several important recommendations need to be the focus of attention to optimize this service in the future. First, increasing people's digital literacy must be a top priority. Local governments need to intensify education and training programs targeting various community groups, especially in rural areas and vulnerable groups such as the elderly. This program can be in the form of direct training, counseling through local media, or cooperation with the digital community that has developed in Bali. With increased literacy, people can more easily understand and access digital services without significant barriers, thereby

expanding the inclusivity of AKUDICARI (Choiriyah, 2023).

Second, improving information technology infrastructure is also very important. Even though Badung Regency is already advanced, there are still areas that need the expansion of fast and stable internet networks. Local governments should encourage cooperation with internet service providers and utilize special allocation funds to improve and expand broadband access in underserved areas. This also includes increasing server capacity and data security in the AKUDICARI system to ensure the smooth running and protection of people's personal data in the use of digital services (Hariani et al., 2023).

Third, the development of the AKUDICARI system features needs to continue to be carried out so that the service is more user-friendly and responsive to the needs of the community. For example, adding an artificial intelligence-based chatbot feature that is able to answer frequently asked questions quickly and provide interactive document filling guides. In addition, integration with other government services, such as health and education services, can accelerate integrated administrative processes that provide broader benefits to the community. This development must be supported by continuous training for Disdukcapil officers in order to provide optimal assistance when needed (Zahwa et al., 2023).

Finally, to maintain the quality and sustainability of AKUDICARI services, local governments need to conduct periodic evaluations and open space for community participation in the service improvement process. Feedback and complaints from users must be responded to quickly and transparently, so that the system can always be improved according to real needs in the field. In addition, the public publication of evaluation results and service achievements will increase public trust while encouraging active public participation in the digitization of public services. This participatory approach will make AKUDICARI not only an

administrative system, but also an instrument for community empowerment and strengthening modern and inclusive governance (Disdukcapil Badung, 2023).

## 5. CONCLUSION

The implementation of the AKUDICARI system in Badung Regency has shown significant progress in optimizing deed printing services by increasing efficiency, transparency, and ease of access for the public. The system significantly reduces document processing time and increases user satisfaction to a high level, thanks to innovative digital features and responsive technical support services. However, challenges related to digital literacy disparities and limited information technology infrastructure are still the main obstacles that hinder the equitable use of

services throughout the region, especially in rural areas and vulnerable groups. Therefore, an integrated effort is needed that involves improving people's digital literacy through training and socialization, expanding and improving the quality of the internet network, and developing system features that are more user-friendly and adaptive to user needs. A participatory approach by involving the community in the evaluation and improvement of services is also important to ensure the sustainability and quality improvement of AKUDICARI as an inclusive and effective technology-based population administration service model. By overcoming these challenges, AKUDICARI has the potential to become a successful example of digital transformation of public services that not only increases bureaucratic efficiency, but also strengthens public trust and involvement in modern and accountable governance.

## REFERENCES

- [1] Arifin, M. Z. (2021). Transformasi Digital dalam Pelayanan Publik: Studi Kasus di Pemerintah Daerah. *Jurnal Administrasi dan Kebijakan Publik*, 15(2), 89-104.
- [2] Disdukcapil Badung. (2023). *Laporan Tahunan Pelayanan Administrasi Kependudukan Kabupaten Badung*. Dinas Kependudukan dan Pencatatan Sipil Kabupaten Badung.
- [3] Firdaus, R., & Kurniawan, A. (2022). Pengaruh Infrastruktur Teknologi Informasi terhadap Efektivitas Pelayanan E-Government. *Jurnal Teknologi Informasi dan Komunikasi*, 11(3), 212-225.
- [4] Gunawan, A., & Setiawan, B. (2020). Literasi Digital dalam Mendukung Pengembangan Layanan Publik Berbasis IT. *Jurnal Ilmu Komunikasi dan Informatika*, 6(1), 33-48.
- [5] Hariani, S., Putra, I. G. N., & Suardika, A. (2023). Digitalisasi Layanan Publik: Tantangan dan Peluang di Era Transformasi Digital. *Jurnal Administrasi Publik Indonesia*, 12(1), 101-117.
- [6] Hidayat, T., & Maulana, F. (2024). Digital Government: Strategi dan Implementasi di Indonesia. *Jurnal Administrasi Negara*, 18(1), 55-70.
- [7] Kusuma, D., & Lestari, S. (2023). Tantangan Infrastruktur Digital di Wilayah Terpencil: Studi di Kabupaten Bali. *Jurnal Infrastruktur dan Teknologi*, 5(2), 99-115.
- [8] Nugroho, H., & Wulandari, R. (2021). Pengembangan Sistem Informasi Pelayanan Publik Berbasis Web untuk Meningkatkan Akses Masyarakat. *Jurnal Sistem Informasi dan Teknologi Informasi*, 9(4), 150-165.
- [9] Pratama, D. (2021). Pengaruh User Interface pada Sistem Informasi Pemerintah terhadap Tingkat Adopsi Masyarakat. *Jurnal Sistem Informasi dan Teknologi*, 10(3), 150-162.
- [10] Putri, I. G. A. D., & Santosa, E. (2022). Analisis Kepuasan Pengguna Layanan E-Government di Indonesia. *Jurnal Pelayanan Publik Digital*, 4(1), 25-40.
- [11] Sari, R. M., & Wibowo, A. (2022). Transparansi dan Akuntabilitas dalam Layanan Administrasi Kependudukan Digital. *Jurnal Pemerintahan dan Kebijakan Publik*, 9(4), 230-245.
- [12] Zahwa, L., Nugroho, A., & Santoso, B. (2023). Implementasi Pelacakan Dokumen Berbasis Digital dalam Meningkatkan Kepercayaan Masyarakat. *Jurnal Teknologi dan Pelayanan Publik*, 7(1), 75-88.