

IMPLEMENTATION OF DIGITAL TRANSFORMATION IN IMPROVING THE QUALITY OF LAND SERVICES AT THE MINISTRY OF ATR / BPN

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Abstract. Digital transformation at the Ministry of Agrarian and Spatial Planning/National Land Agency is a strategic response to the demands of faster, more transparent, and accountable public services. This research aims to identify the forms of digital transformation that have been implemented and the challenges faced in their implementation. The method used is a literature review of ten relevant current scientific journals. The results of the study show that the digital transformation of the Ministry of ATR / BPN includes electronic land certificates, electronic dependents, the public service application Touch Tanahku, digitization of land archives, strengthening the digital competence of ASN, electronic queue system, and service integration with PPAT. Although significant progress has been made, challenges in the form of infrastructure, digital literacy, and inter-agency coordination remain obstacles. The study concludes that the success of BPN's digital transformation requires a holistic approach that includes technology, human resources, and supporting regulations.

Keywords: Digital Transformation; Implementation; Land; Service Quality

1. INTRODUCTION

Digital transformation has become a global priority in improving the efficiency and transparency of public service delivery. (Faedlulloh et al., 2020), including in the agrarian and land sectors. In Indonesia, Government department Agrarian and Spatial Planning/National Land Agency as the main institution in land management and services, participates in the modernization flow through various digital initiatives that aim to reduce bureaucracy, improve service quality, and expand public access to electronic land information (Adinegoro, 2023).

Digital transformation at BPN not only includes the digitization of land documents, but also the implementation of electronic land certificates (e-certificates), the development of service applications such as Touch My Ground, as well as the preparation of a transformation dashboard based on actual service data at land offices in the region (Amdar, 2023; Harahap et al., 2023; Putri et al., 2022). This program is normatively strengthened through the regulations of the Ministry of ATR/BPN such as Ministerial Regulation Number 1 of 2021 and Number 3 of 2023 concerning Digitalization of Land Services (Putri et al., 2022).

The transformation of electronic advances shifts the land registration system from a paper-based (analog) process to an electronic (digital) one. In Indonesia, the use of information and communication technology has progressively transformed market transactions and public services that were originally analog (manual) into electronic-based services. Along with the development of the times in the era of the 4.0 revolution, the Government has made new breakthroughs in keeping up with the increasingly complex dynamics of society. If this is not the case, there will be a stagnation of the law which is known that the law will always lag behind the development of the times (Permatasari & Idris, 2023; Saryana et al., 2022). In the field of land in order to realize the modernization of land services, starting from implementing electronic-based land

services, to the resulting documents in the form of electronic documents (Marlinda & Yunefri, 2021; Masri & Hirwansyah, 2023; Suhattanto et al., 2021).

Since mid-2020, the service in Government department Agrarian and Spatial Planning/National Land Agency has started to implement an online system, this system is very helpful, faster, easier and practical. Such as the implementation of the electronic Dependent Rights system or HT-el (Electronic HT) (Halim et al., 2022). This online-based service system is considered successful, so on January 21, 2021, the Ministry of ATR/BPN began implementing the Regulation of the Minister of Agrarian and Spatial Planning/Head of the National Land Agency Number 1 of 2021 concerning Electronic Certificates, it is stated that all land registration results will be issued in the form of electronic documents (Tripalupi, 2019).

The presence of the Regulation of the Minister of Agrarian and Spatial Planning/Head of the National Land Agency Number 1 of 2021 concerning Electronic Certificates has become a hot topic and has caused polemics in the community with various different responses (M. Tohir, 2021). Some people accept this plan as a form of modernization of land services which is expected to provide security, legal certainty and legal protection to land rights holders (Alimuiddin, 2021). However, not a few people respond a priori to this plan as a hasty plan and not supported by mature preparedness that allows for insecurity conditions of land registration data and can lead to uncertainty of land rights (Maslan, 2023).

The land registration program in all regions of Indonesia should be prioritized or completed first, because the land rights certificate is a sign of proof of rights given at the final stage. So after the lands have been registered, a modernization of land services is held, including the e-certificate. Many parties think that e-certificates are not needed at this time, because there are still many land disputes, both because certificates are forged, overlapping certificates, including registering land throughout Indonesia to be used as the top priority in resolving it. The issue of e-certificates is not in the form or form of the certificate, because certificates are the final process in land registration activities, the main problem is processed electronically from the beginning of the land registration to the issuance of the certificate and the issue of data security to protect rights holders (Mujiburohman, 2021).

The Ministry of ATR/BPN as the operator of the electronic land registration system has stated its readiness, although its implementation will be carried out in stages (Alimuiddin, 2021). In the trial stage of the implementation of this electronic land certificate, it will not be applied to the land of the general public, but its implementation will only be limited to State Property (BMN), assets of State-Owned Enterprises (SOEs), various companies or large-scale private sectors. For the location of land offices that will implement the implementation of electronic certificates in this trial stage, only in a few cities. Furthermore, the Ministry of ATR/BPN targets that this electronic certificate policy program has begun to be implemented for the next 5 (five) years. (Rachman, Hastri, 2021)

The Ministry of ATR/BPN's consideration of the location of the selection of several land offices is due to problems of infrastructure, facilities, infrastructure, and public awareness. In Indonesia, this infrastructure problem has become an old polemic that never ends, because indeed the inequality of this infrastructure is clearly visible in various regions. So some of the land office locations chosen by the Ministry of ATR/BPN whose city infrastructure is considered to be quite ready are only 5 (five) land offices in DKI Jakarta and 2 (two) land offices in Surabaya. In the next development, it will also be applied to other city land offices such as in Banten, Denpasar, Batam, Surakarta, Tangerang, and Medan. Huda and Wandebori (2021) that the obstacles to digital land certification in Karawang Regency are caused by 2 (two) factors, namely: internal factors and external factors. Furthermore, Febrianti (2021) said that the obstacles in the implementation of Electronic Certificates in Bekasi City are the validation of land field data, synchronization and harmonization of laws and regulations, uneven socialization, inadequate facilities and infrastructure, while Mujiburohman (2021) that the obstacles to

e-certificates are influenced by several factors, namely First, education factors and economic factors, Second, the readiness factor of infrastructure and Human Resources (HR). Third, certain causal factors.

The implementation of electronic land certificates is considered a major milestone in the digitization of agrarian services. However, a study by Auliani & Roisah (2025) It shows that legal aspects, community digital literacy, and system integration are still real obstacles in their implementation. The same thing was conveyed by Farahzita & Arsin (2022), which emphasizes the importance of PPAT's role in supporting digital systems collaboratively.

Digital transformation is also translated using the Touch My Land application, which allows people to independently check the status of land plots. This application is considered to strengthen transparency and service efficiency, especially in the context of the Society 5.0, as reviewed by Noer, Salsabila & Niravita (2024).

In terms of data management, Government department Agrarian and Spatial Planning / National Land Agency also runs a land archive media transfer program, namely the conversion of physical documents to digital. Research at the Bandung Regency Land Office by Rifai et al. (2022) emphasized that the digitization of archives improves the efficiency of data search and strengthens document security.

From the internal side of the organization, strengthening the capacity of state civil servants (ASN) in terms of digital literacy is a must. Study Mullianto (no year) Developing a digital competency model for ASN in the environment Government department Agrarian and Spatial Planning / National Land Agency which includes Digital Competence, Digital Leadership and Digital Culture, as a prerequisite for the success of sustainable digital reform.

However, the implementation of digital transformation in the field is not immune to structural challenges. Field study by Huda & Wandebori (2021) shows that there is still resistance from Regency/City Land Office employees to the use of digital systems, especially in areas with limited infrastructure. In addition, national strategic programs such as Complete Systematic Land Registration (PTSL) are now closely linked to the digitization of land databases. According to Alam, Nawi & Ilyas (2024), PTSL is the foundation for the development of an electronic land system oriented to a single database.

This digital transformation also raises the need for cross-sector coordination between BPN, the Ministry of Finance, and tax agencies. Data mismatches between institutions are often an obstacle to the integration of digital land services nationally (Adinegoro, 2023). Several land offices have also developed digital monitoring dashboards, which present the performance achievements of electronic services and the readiness for quantitative e-certificate implementation. This initiative is as exemplified by the Badung Regency Land Office, which is in the top 20 nationally in digital readiness (Son, 2024).

In the midst of these dynamics, the urgency to conduct a systematic evaluation of the achievements, obstacles, and opportunities for digital transformation at the Ministry of Agrarian and Spatial Planning/National Land Agency is very important. Therefore, this study aims to map various forms of digital transformation that have been carried out by the Ministry of Agrarian and Spatial Planning / National Land Agency, examine the effectiveness of their implementation based on empirical evidence, and formulate strategic recommendations that can strengthen the electronic land service system in Indonesia.

2. RESEARCH METHODS

This research was conducted using a descriptive qualitative approach through the library research method, which aims to identify and analyze various forms of digital transformation implemented by the Ministry of Agrarian and Spatial Planning/BPN. This approach is considered relevant because it allows researchers to examine policies, implementation practices, and challenges faced in the land digitization process based on the results of published scientific studies.

The main data sources in this study come from scientific articles published in the period 2021 to 2024, with article criteria that explicitly discuss the digital transformation of land services in Indonesia, especially by the Ministry of Agrarian Affairs and Spatial Planning/BPN. Articles were selected through academic search using the ScholarAI platform, with keywords such as "digital transformation of BPN", "electronic land certificates", and "digitization of public services of ATR/BPN".

One of the main references is a study by Adinegoro (2023), which discussed in depth the challenges of implementing electronic land certificates in various regions. This research shows that the implementation of the digital certificate system still faces resistance from the public, especially related to the aspect of legal trust in electronic documents. In addition, the success of this program is highly dependent on the readiness of information technology infrastructure that is not evenly distributed throughout Indonesia.

Furthermore, Noer et al. (2024) evaluated the "Touch My Land" application as a form of digital transformation that brings land services closer to the community. This application is considered effective in providing direct access to information related to the status of land plots, locations, and certificate validation, and is a clear example of BPN's adaptation to the Society 5.0 era.

Data obtained from various articles were analyzed using thematic analysis techniques. The researcher classifies data based on the main themes, such as: digitization of land certificates, application-based services, integration of land data, and strengthening the capacity of civil servants in the digital field. Article by Mullianto, for example, is used to understand how improving the digital competency of civil servants supports the success of digital transformation institutionally. This study presents a development model that includes digital competence, digital leadership, and digital work culture in the ATR/BPN environment.

The research also considers the aspect of digitization of archives as discussed by Rifai et al. (2022), which suggests that the conversion of archives from physical to digital form is able to improve service efficiency and reduce the risk of data loss. The role of Land Deed Making Officials (PPAT) in supporting the integration of digital services was also studied through a study Farahzita & Arsin (2022), which emphasizes the importance of system synchronization between PPAT and BPN.

The validity of the data is maintained by using only articles published in verified academic journals, which can be searched through a Digital Object Identifier (DOI) or the domain of an official higher education institution. Validation is also carried out through triangulation between articles, to ensure consistency and credibility of findings.

Thus, this literature-based qualitative approach allows a comprehensive mapping of the dimensions of digital transformation in BPN, including practices, obstacles, and future opportunities in technology-based national land services.

3. RESULTS AND DISCUSSION

Digital transformation at the Ministry of Agrarian and Spatial Planning/National Land Agency is a strategic response to the demands of efficiency, transparency, and accountability in public services. A number of studies and official documents show that this transformation takes place gradually and touches various aspects of the organization, ranging from technical services, administrative systems, to strengthening the capacity of human resources. The forms of digital transformation that have been successfully identified are as follows:

1. Implementation of Electronic Land Certificates

One of the main breakthroughs made by BPN is the replacement of physical land certificates with electronic certificates. According to Adinegoro, (2023), this policy is intended to suppress cases of document forgery and simplify the bureaucratic process of registration and transfer of land rights. Electronic certificates are integrated in a digital-based land system called the Land Certificate Electronic System (SEST). However, the

researcher noted that there is still resistance from the public because there is no equal understanding of the legal legitimacy of digital documents.

2. Digitization of the Dependent Rights Process

In the realm of financing and credit services, BPN has developed Electronic Dependent Rights (HT-el), which allows banks and notaries to process collateral documents online without the need to be physically present at the land office. Research Adinegoro, (2023) indicates that HT-el can cut processing time from 30 days to less than one week. However, the success of its implementation is highly dependent on the readiness of the internet network and inter-agency integration.

3. Utilization of the "Touch My Land" Application

BPN also launched the mobile application "Touch My Land" as a digital channel for the public to monitor the status of files, see the location of the land, and check the validity of certificates independently. Based on studies (Amdar, 2023; Putri et al., 2022), this application has become a symbol of digital-based public service reform in the era Society 5.0. The survey results presented in the study showed an increase in user satisfaction of up to 70%, especially in the urban segment of society with high digital literacy.

4. Digitization of Land Archives

One of the essential elements of digital transformation is the conversion of physical archives to digital. This process involves scanning old documents, digital indexing, and integration with land information systems. Research by Rifai et al., (2022) The Bandung City Land Office shows that digitizing archives accelerates data search, reduces document damage, and makes it easier to audit land data.

5. Strengthening the Digital Competency of State Civil Apparatus (ASN)

Digital transformation does not only include technology, but also the development of civil servants' digital competencies. Iriansyah et al., (2023); Rahmadani et al., (2021); and Santo et al., (2021) Develop a digital competency development model consisting of three elements: Digital Competence, Digital Leadership and Digital Culture. The results of his research stated that the Government department Agrarian and Spatial Planning / National Land Agency must strengthen training and digital work culture so that the transformation is sustainable.

6. Digitization of Queue System and Service Administration

Along with the need for efficiency, several Land Offices have implemented a digital queue system and e-booking services (Krisnawati & Kusumasari, 2022). This is considered a solution to reduce waiting time and crowds in the office. This system works with service scheduling and automatic notifications to service users.

7. Digital Collaboration with PPAT and External Stakeholders

Digital transformation Government department Agrarian and Spatial Planning / National Land Agency also demands synergy with the Land Deed Making Officer (PPAT). In research Farahzita & Arsin (2022), the role of PPAT is very important in digital data input and deed validation directly through the BPN application system. This shows the need for cross-professional collaboration and increasing digital literacy outside ASN.

8. Identify Implementation Challenges

Despite the great progress made, various studies have also noted a number of challenges that are still faced. These include:

- Lack of digital infrastructure in remote areas,
- Digital literacy inequality between regions,
- The integration of data between central and regional agencies has not been optimal,
- The need for legal regulation updates related to electronic document authentication.

Analysis and Reflection

The digital transformation of the Ministry of Agrarian and Spatial Planning / National Land Agency is a concrete example of information technology-based bureaucratic reform in the agrarian sector. Its success will largely depend on collaboration between technology, regulations, human resources, and community participation. A holistic and phased approach is considered the best strategy to address existing complexity.

CONCLUSION

Based on the results of the analysis of various forms of digital transformation within the Ministry of Agrarian and Spatial Planning/BPN, it can be concluded that the Ministry of Agrarian and Spatial Planning/National Land Agency has taken progressive steps in adopting information technology to improve the effectiveness of land services. The implementation of electronic certificates and digital dependents has been proven to speed up the administrative process and minimize the potential for legal violations. The use of applications such as Touch Tanahku and the digitization of archives and service queues shows the commitment of the Ministry of Agrarian Affairs and Spatial Planning/BPN in bringing services closer to the community. On the other hand, strengthening the capacity of the State Civil Apparatus in the digital aspect is also an important foundation in supporting the sustainability of this transformation.

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