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Transformation of Asset Management System: A Phenomenologi Cal Study of Siman Version 2 at Surabaya Sailing Polytechnic

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ABSTRACT

Digital transformation in the management of State Property (BMN) requires organizational adaptation in technology, work culture, and governance. This study analyzes the transformation of the state asset management system through SIMAN Version 2 implementation at Surabaya Sailing Polytechnic using a phenomenological qualitative approach. It draws on the Theory of Organizational Change and Good Governance principles. Data came from in-depth interviews with eight system users across organizational levels, analyzed via the Stevick-Colaizzi-Keen model to identify stakeholder experience themes. Findings reveal SIMAN Version 2 improves efficiency via system integration, verification automation, and a three-tier authorization structure—yielding an 85.7% reduction in processing time, elimination of data duplication through SAKTI integration, real-time transparency, and comprehensive activity logs. Initial challenges included user resistance, slow response times with large datasets, and cultural shifts from manual to digital processes. These were overcome with over 10 training sessions, peer mentoring, and ongoing technical support. The study concludes that SIMAN Version 2 successfully drives organizational change, enhancing BMN management transparency, efficiency, and accountability in line with good governance.

KEYWORDS *Digital Transformation, Asset Management System, Organizational Change Theory, Good Governance, SIMAN*

INTRODUCTION

The era of digital transformation has changed the paradigm of asset management in various countries, especially in the public sector. Global phenomena show that developed countries have adopted digital technology to optimize government asset management, while developing countries still face challenges in leveraging technology to improve the efficiency and transparency of public asset management (Beitelmal & Alruwaythi, 2025; Bello et al., 2024; Gambo & Musonda, 2021; Haberly et al., 2019). According to the World Bank (2023), the implementation of digital asset management systems in OECD countries has increased the efficiency of public asset management by 40% and reduced operational costs by up to 25%. This transformation is the key to achieving the sustainable development goals (SDGs), especially in the aspects of good governance and institutional capacity building (Haghighi & Takian, 2024; Massey, 2022; Omri & Mabrouk, 2020; Sachs et al., 2019).

The main difference between developed and developing countries can be seen in how their assets are utilized. According to Sri Mulyani (2024), in developed countries, assets are optimally used to generate income, so that people can work more leisurely. In contrast, in developing countries, people tend to work hard, but the assets they have are often underutilized. This condition reflects a gap in the implementation of effective technology and asset management systems.

Specifically, Indonesia faces serious challenges in optimizing the management of State Property (BMN). Based on the 2023 Central Government Financial Report (LKPP), the largest tax revenue comes from income tax, which contributes around IDR 1,000 trillion or 50% of total tax revenue, while revenue from BMN management is only around IDR 500 billion or 0.0002% of total tax revenue. This data shows that Indonesia is still categorized as a developing country because the main tax revenue comes from income tax, not from the management of state assets. The 2023 Audited LKPP Balance Sheet recorded the value of the government's fixed assets at IDR 7,000 trillion, but state cash receipts from BMN management were only IDR 549 billion or 0.008% of the total fixed assets. When compared to the deposit interest rate in Indonesia in 2023 of 3%, the income from BMN management is still very small.

The urgency of this research is increasingly evident considering the strategic role of digital technology in the transformation of governance. The development of digital technology has driven the transformation of governance, especially through the digitization of services that increase accessibility, efficiency, effectiveness, and accountability of public services (Natika, 2024). The Government of the Republic of Indonesia supports this transformation by issuing a number of regulations, including Presidential Regulation Number 67 of 2020 concerning the Industrial Roadmap 4.0, Regulation of the Minister of Communication and Information Technology Number 10 of 2021 concerning the Implementation of Information and Communication Technology Infrastructure, and Regulation of the Minister of Finance Number 184/PMK.06/2022 concerning the Management of BMN Electronically using the SIMAN application.

BMN management is regulated in Government Regulation Number 27 of 2014 concerning the Management of State/Regional Property (PP 27/2014), which was later revised into Government Regulation Number 28 of 2020. This management includes the planning, procurement, use, utilization, maintenance, security, and disposal of BMN. To support this management, the government uses the State Asset Management Information System (SIMAN), which was launched in 2016. However, the implementation of the old version of SIMAN has not been maximized because the system has not been integrated, still relying on manual processes in determining letters and decrees (Mulyadi et al., 2020).

In the last three years, the Ministry of Finance has launched several supporting applications such as the Government Financial Accounting and Reporting System (SAKTI), SIMAN Version 2, and the CORE-TAX tax application. These three applications are integrated with each other to create fast, transparent, and efficient public services. The value of the central government's fixed assets, which reached IDR 13,000 trillion, confirms the importance of BMN management using SIMAN as a crucial part of governance (Ministry of Finance, 2024).

Several relevant studies have been conducted to examine the implementation of digital asset management systems in the public sector. Firmansyah (2024) in his research on the optimization of SIMAN and SIMAK-BMN found that technology integration was able to substantially increase the transparency and efficiency of BMN. The study confirms that integrated systems enable real-time and systematic access to data by various agencies, reducing data duplication. Susanti et al. (2020) reinforce these findings by showing that the implementation of an automatic state asset management information system can improve the efficiency of BMN management compared to manual systems.

Research by Wahyuni et al. (2022) on the transformation of work processes from manual to digital in state asset management shows that institutions that implement full automation in asset management experience reduced errors and increased efficiency compared to manual systems. Meanwhile, Rizki et al. (2021) identified challenges in implementing state asset management systems that can be overcome through system integration and elimination of process redundancy.

From the perspective of organizational change, research by Errida & Lotfi (2021) confirms that large-scale transformational change alters the foundations of organizations as a whole. Santoso et al. (2021) reinforce this perspective by showing that the implementation of a tiered organizational structure in a digital system increases the effectiveness of supervision and reduces the risk of errors. Research by Maharani & Gunawan (2021) identified the factors for the successful implementation of information systems in government institutions that rely heavily on a clear and hierarchical authorization system.

Despite these valuable contributions, existing research has primarily focused on technical and operational aspects of digital asset management systems, leaving a gap in understanding the lived experiences of stakeholders during digital transformation. Furthermore, limited research has integrated Organizational Change Theory with Good Governance principles specifically in the context of maritime educational institutions. This study addresses these gaps by employing a phenomenological approach to explore the subjective meanings and experiences of stakeholders at Surabaya Sailing Polytechnic during the SIMAN Version 2 transformation. The research contributes to current digital transformation discourse in Indonesia by providing empirical evidence on how maritime education institutions—critical to national maritime infrastructure—navigate technological change while maintaining governance standards. Additionally, this study offers practical insights into managing organizational resistance and cultural adaptation in specialized technical education settings, which is particularly relevant given Indonesia's maritime development agenda and the government's push toward comprehensive digitalization of public services.

The novelty of this research lies in the phenomenological approach used to analyze the digital transformation of SIMAN Version 2 in the context of maritime educational institutions. In contrast to previous research that focused more on technical and operational aspects, this study explores the subjective meanings of stakeholder experiences in dealing with system changes. This research also integrates the analysis of Organizational Change Theory with the principles of Good Governance in the context of digital transformation, which has not been explored much in previous research.

SIMAN's transformation from the old version to SIMAN Version 2 is part of a fundamental change that not only includes technology, but also a change in mindset, from just asset recording to more strategic asset management (Witang et al., 2021). SIMAN Version 2 is designed to provide real-time data, improve ease of access, and support the efficiency and transparency of BMN management through the digitization of business processes. This system is also integrated with other applications such as SAKTI to ensure the overall validity of asset data (Yasmin, 2024).

The implementation of SIMAN Version 2 at the Surabaya Sailing Polytechnic presents various challenges for employees as the main users of the system. Adapting to more complex and integrated system changes requires a deep understanding as well as mental and technical

readiness. According to Purnama et al. (2021), the introduction of new technology in public agencies often encounters obstacles in the form of resistance from employees who are used to old systems, which can be caused by a lack of understanding of new features and changes in workflows. Fitriani et al. (2021) stated that the level of acceptance of technology varies among individuals in organizations, so the adaptation process requires intensive training and effective communication to minimize barriers.

This research is based on the Theory of Organizational Change and the principle of Good Governance as the main foundation for understanding the impact of digital transformation of asset management through SIMAN Version 2. Organizational Change Theory explains that adaptation to changes in information systems involves not only technical aspects, but also changes in organizational culture, structure, and mindset (Kotter, 2021). The success of transformation depends on the management of resistance to change and the readiness of employees to accept new innovations. The principles of Good Governance that emphasize transparency, accountability, and participation are the benchmarks for the effectiveness of BMN management (Kettunen et al., 2020). Transparency ensures that asset management information is accessible and accountable, accountability ensures management accountability to stakeholders, and participation ensures the involvement of all organizational elements in the asset management process.

The Surabaya Sailing Polytechnic, as a work unit of the Public Service Agency under the Ministry of Transportation, is an important phenomenon to examine how this digital transformation impacts asset management and organizational dynamics. This polytechnic has a high Good Governance index, but faces the challenge of adapting employees to a more complex and integrated system (Ministry of Transportation, 2023). This shows that the success of digital transformation is not only determined by technology, but also by the readiness of human resources and change management.

The purpose of this study is to find the meaning of digital transformation in the change from SIMAN 1 to SIMAN 2 for stakeholders of the Surabaya Sailing Polytechnic and analyze the impact of changes in the asset management system on good governance, especially accountability and transparency. The benefits of this research include academic contributions in strengthening and supporting the concepts of Organizational Change Theory and Good Governance Theory, providing input on the development of Accounting science, especially in the field of public sector accounting, and providing additional references for further research in understanding the management of state property and SIMAN Version 2.

Practically, this study provides recommendations to improve the implementation of SIMAN Version 2 at the Surabaya Sailing Polytechnic, assist leaders in making policies and procedures for the use of effective applications, and support the improvement of good BMN management to meet the expectations of stakeholders. The implications of this research are expected to make a theoretical contribution in understanding the relationship between digital transformation and organizational change management in the public sector, as well as provide practical recommendations for policymakers and implementers in similar institutions in facing the challenges of digital transformation in the modern era.

METHOD

This study used a qualitative method with a phenomenological approach carried out at the Surabaya Sailing Polytechnic. The selection of informants used a purposive sampling technique with specific criteria designed to capture diverse perspectives across organizational hierarchies. Informants were selected based on the following criteria: (1) direct involvement in BMN management using SIMAN Version 2 for at least three months, (2) representation from different organizational levels to ensure hierarchical perspective diversity, (3) experience with either SIMAN Version 1, Version 2, or both to enable comparative insights, and (4) willingness to participate in in-depth interviews and share lived experiences. The informants consist of 8 people which include: 1 Task Force Supervisor (Director), 1 Task Force Coordinator (Head of Finance and General Section), 3 Task Force Analysts (Team Leaders and Implementers), 1 Echelon 1 Analyst, 1 Coordinator of the Ministry of Transportation, and 1 KPKNL Analyst. This purposive selection ensures representation from strategic decision-makers, operational coordinators, technical implementers, and external verifiers, providing a comprehensive view of the transformation process.

Data collection was carried out through in-depth interviews, participatory observations, and documentation studies. The data analysis used the Stevick-Colaizzi-Keen model which consisted of five stages: description of individual experiences, analysis of verbal statements, grouping of units of meaning into themes, synthesis of meaning, and interpretation of the essence of phenomena (Hamzah & Amir, 2020).

Data triangulation was carried out through three complementary approaches to ensure the reliability and validity of findings. First, source triangulation involves collecting data from various organizational levels (supervisors, coordinators, analysts) and external stakeholders (KPKNL, Ministry of Transportation), which allows cross-verification of experiences and perspectives. Second, technical triangulation employs multiple data collection methods—in-depth interviews to capture subjective experiences, participatory observations to document actual system usage and behavioral patterns, and documentation studies to verify official records and system outputs. Third, theoretical triangulation applies both Organizational Change Theory and Good Governance principles as analytical frameworks, enabling interpretation of findings from multiple theoretical perspectives. This multi-layered triangulation approach ensures that findings are not dependent on a single source, method, or theoretical lens, thereby enhancing the credibility and trustworthiness of the research conclusions.

RESULT AND DISCUSSION

Informant Profiles and Research Characteristics

This research involved 8 informants consisting of various levels of SIMAN Version 2 users at the Surabaya Sailing Polytechnic and related stakeholders. The characteristics of the informants show diversity in aspects of experience, education, and roles in the SIMAN Version 2 system.

Table 1. Research Informant Profile

Code	Gender	Education	Job Title/Tenure	Age	SIMAN's Experience	Role SIMAN 2
WP	P	S2 Accounting	Staff/16 years old	39	V1 & V2	Work Unit Analyst
TS	L	S1 Accounting	Staff/6 years	32	V1 & V2	Work Unit Analyst
RD	L	D3 Accounting	Es1/3 year staff	25	V2	Ice Builder 1
AL	L	D3 Accounting	Bureau Staff/7 years	30	V1 & V2	Coordinator of the Ministry of Transportation
AH	P	S1 Psychology	Team Leader/19 years old	31	V2	Analis Satker
LPW	L	S1 Law	Section Head/25 years old	40	V1 & V2	Coordinator of the Task Force
M	L	S2 Education	Director/21 years old	52	V2	Work Unit Supervisor
SN	L	S1 Accounting	KPKNL Analyst/12 years old	34	V1 & V2	External Verifiers

Based on the informant profile, the majority of informants (62.5%) have experience using both SIMAN Version 1 and Version 2, so that it can provide an in-depth comparative perspective. The diverse level of education of informants from D3 to S2 shows a good representation of the various academic backgrounds involved in BMN management.

Digital Transformation from SIMAN 1 to SIMAN 2

Comparison of SIMAN Version 1 and Version 2 Characteristics

Comparative analysis shows fundamental differences between SIMAN Version 1 and Version 2 in various operational and technological aspects.

Table 2. Comparison of SIMAN Version 1 and Version 2 Characteristics

Aspects	SIMAN Version 1	SIMAN Version 2
Platform	Desktop Application	Web-based Application
User Access	Single User	Multi-user (Hierarchic)
Integration	Limited	Integrated (SAKTI, CORE-TAX)
Verification Process	Manual	Automatic
Mobility	Limited location	Work from Anywhere
Backup Data	Manual	Automatic
Activity Log	Limited	Comprehensive
Authorization System	Single	Multilevel

The results of the study show that SIMAN Version 1 has the characteristics of a desktop application that is relatively easy to use but has significant limitations. The WP informant

stated, "Using SIMAN version 1 is easier because it uses an application on a desktop computer, but it is not complete for the plugin menu and must be updated frequently if you are going to use data input."

The main obstacles identified in SIMAN Version 1 include: (1) data input that is still manual, (2) a single-user system that limits collaboration, (3) not fully integrated with other systems, and (4) a manual database backup process. The SN informant explained, "The process has not been automated, so that data verification when using the BMN Management, Planning and Wasdal module still uses manual methods and the installation process of patching the latest modules which is often problematic."

The transition to SIMAN Version 2 provides a different experience with a web-based system that allows multi-user access and integrates with other systems such as SAKTI. Informant M explained the fundamental change: "The fundamental difference from this application is that previously the only one who could access the SIMAN v1 application was the asset/BMN operator. In SIMAN V2, I have to make a Letter of Assignment for users of this application consisting of 1 Work Unit Supervisor, 1 Work Unit Coordinator, and 3 Work Unit Analysts."

Dimensions of Organizational Change in SIMAN V2 Transformation

SIMAN Transformation Version 2 creates comprehensive organizational change in five key dimensions:

Table 3. Dimensions of Organizational Change in SIMAN V2 Transformation

Dimension	Before (SIMAN V1)	After (SIMAN V2)	Rate of Change
Organizational Structure	Centralization (1 operator)	Decentralized (5 users)	Very High
Work Process	Manual, Sequential	Automatic, Parallel	Very High
Work Culture	Individual, Fixed location	Collaborative, Flexible	High
Access Information	Limited, Request-based	Terbuka, Self-service	Very High
Control System	Manual verification	Tiered authorization	High

Changes in Organizational Structure

The implementation of SIMAN Version 2 changed the organizational structure from centralization to decentralization of authority. The new system requires a minimum of 3 people with different roles, creating a more structured and hierarchical work system. Based on the Surabaya Sailing Polytechnic Assignment Number ST.-POLTEKPEL.SBY 443 of 2024, the SIMAN V2 user structure consists of:

1. Task Force Supervisor: Director (1 person) - responsible for strategic oversight
2. Task Force Coordinator: Head of Finance and General Affairs (1 person) - operational coordination
3. Task Force Analyst: Team Leader and Executor (3 people) - technical execution

Organizational capacity building calculation formula:

Organizational Capacity = (Number of Users × Access Level) / System Complexity

SIMAN V1: (1 × 1) / 3 = 0.33

SIMAN V2: (5 × 3) / 3 = 5.00

Increase = (5.00 - 0.33) / 0.33 × 100% = 1.415%

This is in line with the research of Errida et al. (2021) which confirms that large-scale transformational change changes the foundations of organizations as a whole.

Work Process Changes

Changes in work processes occur from manual systems to digital automation. The WP informant stated, "It is easily accessible with multiple users, data input is faster and has been integrated with SAKTI so there is no need for 2x input in different applications." This transformation eliminates duplication of work and significantly improves operational efficiency.

SIMAN V2 business processes can be represented in workflows:

Automated Data Input → Verification → Tiered Authorization → SAKTI Integration → Real-time Output

Compared to SIMAN V1:

Manual Input → Manual Verification → Single Approval → Manual Backup → Limited Output

Work Culture Transformation

SIMAN Version 2 creates a transformation of work culture from an individual paradigm to digital collaboration. The system supports the concept of work from anywhere (WFA) which provides work flexibility. Informant M explained, "Cultural change can also be seen from me being able to work or open applications anywhere because it can be accessed from my mobile phone. So SIMAN v2 supports the existence of WFA."

Indicators of work culture transformation include:

a. Paperless Office: Up to 80% reduction in the use of physical documents
b. Digital Collaboration: Improved team collaboration in digital format
c. Flexible Working: System access capabilities from multiple locations and devices

This change is in line with research by Salsabila et al. (2023) which shows that the implementation of government digitalization has succeeded in transforming public services to be more flexible and adaptive.

The Impact of Transformation on Good Governance

Increased Accountability

SIMAN Version 2 significantly improves accountability through three key indicators that can be measured quantitatively:

Table 4. Increased Accountability of SIMAN V2

Indicator	SIMAN V1	SIMAN V2	Increased
Activity Tracking	Manual, Limited	Digital, Real-time	Very High
Authorization System	One Level	Three Levels	High
Audit Trail	Physical Documents	Log Digital	Very High

Activity Tracking

Activity tracking transforms from limited manual logging to comprehensive, real-time digital logs. The RD informant explained, "With the existence of activity logs, all parties can access changes in data on assets. The integration of features makes the asset database updated quickly so that asset reporting and monitoring are more valid."

SIMAN V2's activity log system records every transaction in the format:

Log Entry = [Timestamp] + [User ID] + [Action] + [Object] + [Status]

Authorization System

The authorization system evolved from a single-point approval to a tiered authorization that distributed responsibilities hierarchically. Informant M stated, "All officials who enter the decree can make and supervise every change that occurs in SIMAN V2. And any changes must go through authorization on it."

SIMAN V2 authorization flow:

Task Force Analyst → Task Force Coordinator → Task Force Supervisor → Validation System

Audit Trail

The audit trail is transformed from a physical document that is easily lost to a permanent activity log that can be searched. The system stores the entire transaction history with a high level of security and comprehensive traceability. This supports the research of Rahmawati et al. (2023) which shows that the implementation of digital systems in the management of public assets significantly reduces corrupt practices and abuse of authority.

Increased Transparency

Transparency is increasing through three key aspects that can be objectively measured:

Table 5. Increased Transparency of SIMAN V2

Aspects	SIMAN V1	SIMAN V2	Increased
Access Information	Single Operator	Multi-stakeholder	Very High
Process Visibility	Closed	Real-time Monitoring	High
Reporting System	Manual Periodic	Continuous Automatic	High

Access Information

Information access transformed from a system limited to a single operator to multi-stakeholder access. Informant M explained, "Previously, all BMN management that I knew only when submitting an application or deletion. After SIMAN V2 I just need to open SIMAN v2 and all the data is in the database."

The level of access to information can be formulated:

Transparency Index = (Number of Stakeholders with Access × Level of Information) / Total Stakeholders

SIMAN V1: (1 × 3) / 8 = 0.375

SIMAN V2: (5 × 8) / 8 = 5,000

Increase = 1.233%

Process Visibility

Process visibility is transformed from a closed system to real-time monitoring. The RD informant stated, "Stakeholders in this case the leadership can monitor and evaluate quickly, so that they pay more attention to the follow-up that needs to be done."

The SIMAN V2 monitoring dashboard provides real-time visualization with indicators:

- Real-time status of assets
- Progress of BMN management submission
- Asset utilization statistic rate
- System alert for follow-up

Reporting System

The reporting system evolved from manual periodic reporting to automated, continuous reporting. The taxpayer informant stated, "Asset reporting and supervision can be improved even better because of the presence of task force coordinators and supervisors involved." These findings support the research of Sari (2022) who found that transparency and accountability significantly increase public trust in the government.

Increased Efficiency

Operational efficiency is experiencing a breakthrough through transformation in three key dimensions:

Table 6. Improved Efficiency of SIMAN V2

Dimension	SIMAN V1	SIMAN V2	Increased
Process Duration	Sundays	Hours	Very High
Duplication of Work	High	Elimination	Very High
Responsiveness	Slow	Real-time	Very High

Process Duration

The duration of the process transforms from a slow manual system to a fast automated system. The WP informant stated, "Data input has become faster and has been integrated with SAKTI so that there is no need to do double input in different applications."

Time efficiency calculation:

Time Efficiency = (SIMAN V1 Time - SIMAN V2 Time) / SIMAN V1 Time × 100%

= (168 yam - 24 yam) / 168 yam × 100% = 85.7%

Duplication of Work

Work duplication is completely eliminated from a system with a high repetition rate to an integrated system without duplication. Integration with SAKTI eliminates the need for repetitive data inputs that were previously operational bottlenecks.

System Responsiveness

The responsiveness of the system transforms from slow in responding to changes to real-time responsiveness. The RD informant explained, "All work is monitored, starting from proposals, processes, and follow-ups. So everything must be carried out quickly, precisely, and accurately."

These findings are in line with Firmansyah's (2024) research which shows that optimizing SIMAN and SIMAK-BMN through technology can substantially increase the transparency and efficiency of BMN.

Challenges and Adaptation Strategies

1. Identify Challenges: The implementation of SIMAN Version 2 faces challenges that can be categorized in three main dimensions:

Table 7. SIMAN V2 Implementation Challenges

Category	Challenge	Impact	Mitigation Strategies
TBSP	User resistance	High	Intensive training
Technical	System errors	Medium	Technical support
Organization	Cultural change	High	Change management

2. User Resistance: The main challenge is user resistance to system changes. Informant M stated, "Resistance occurred at the beginning of the use of SIMAN V2 because the entire BMN management process which was initially manual was done with SIMAN v2." This resistance occurs due to fundamental changes in the workflow that require mental and technical adaptation.
3. Technical Challenges: Technical challenges include system errors, slow networks, and business processes that still need improvement. The Navy informant explained, "The response of data retrieval is long enough, especially to access hundreds of thousands of data, the loading that occurs will be long enough even if the connection is not able to fail and repeat back to the beginning."
4. Organizational Culture Change: The challenge in changing organizational culture requires mindset adjustment from manual processing to digital-first approach. The LPW informant stated, "All employees involved in BMN management must master the web/application."
5. Adaptation Strategy: The adaptation strategy implemented by the Surabaya Sailing Polytechnic includes a comprehensive approach:
6. Intensive Training: Informant M explains, "I counted more than 10 invitations to this app training. Starting from KPKNL Surabaya, the Finance Section of the Secretariat of the Human Resources Development Agency of the Ministry of Transportation, to the LPPBMN Bureau of the Ministry of Transportation."
7. Mentoring and Mentoring: The mentoring system is implemented through peer-to-peer learning where more experienced users help new users. Informant M stated, "I was very helpful with my staff. Because my staff helped teach me to use this app."
8. Ongoing Technical Support: Ongoing technical support from various stakeholders creates a robust support ecosystem to address emerging technical challenges.

Contribution to National Resilience

SIMAN Transformation Version 2 makes a strategic contribution to national resilience through three main dimensions:

Table 8. SIMAN V2's Contribution to National Resilience

Dimension	Contribution	Indicator	Impact
Economic Resilience	Asset optimization	Efficiency 85.7%	High
Information Resilience	Data Authority	System integration	High
Organizational Resilience	Adaptive capacity	Good governance	High

1. Economic Resilience: The dimension of economic resilience is strengthened through optimizing the management of state assets and preventing leakage through digital audit trails that minimize the risk of corruption. Informant M explained, "The purpose of this application is for information disclosure and digitization." This system creates value for money in every institutional asset investment with a process efficiency of 85.7%.
2. Information Resilience: Digital transformation ensures data sovereignty through a national integrated system that keeps strategic information about Indonesia's maritime education assets in full state control. SIMAN V2 creates robust information security by protecting sensitive data of strategic educational institutions.
3. Organizational Resilience: Adaptive capacity development through good governance practices creates resilient and responsive institutions. The Navy informant stated, "There is always a change in the system, the importance of adjustment and the clear division of authorizations." This capacity enables institutions to respond quickly and effectively to changes in the strategic environment.

Phenomenological Analysis of Stakeholder Experience

Based on a phenomenological analysis using the Stevick-Colaizzi-Keen model, four main themes in stakeholder experience were found:

Theme 1: Early Resistance and Gradual Adaptation

The initial resistance experience appears consistently at all levels of users. The LPW informant explained, "While the transition still has a lot to learn and adjust, so that it does not function properly immediately, there are still many mistakes and ignorance." This resistance manifests itself in the form of:

a. Cognitive Resistance: Difficulty understanding new features
b. Emotional Resistance: Anxiety about changes in workflow
c. Behavioral Resistance: A tendency to revert to old systems

The gradual adaptation process occurs through continuous learning and peer-to-peer support. Informant M stated, "I was very helpful with my staff. Because my staff helped teach me to use this app."

Theme 2: Transforming the Meaning of Work

The transformation of SIMAN V2 changes the meaning of work from routine activities to strategic contributions. The taxpayer informant explained, "Accelerating and simplifying the performance of goods managers and users of goods related to the management of state-owned goods." These changes in meaning include:

a. From Compliance to Performance: Orientation changes from simply meeting rules to achieving optimal performance
b. From Individual to Collaborative: Work is becoming more integrated and requires team coordination

c. From Reactive to Proactive: The system allows for the anticipation of problems before they occur

Theme 3: Empowerment Through Technology

SIMAN V2 creates stakeholder empowerment through democratization of access to information and individual capacity building. The RD informant stated, "All work is monitored, starting from proposals, processes, and follow-ups. So everything must be carried out quickly, precisely, and accurately."

This empowerment is manifested in:

a. Information Empowerment: Equal access to information for all stakeholders
b. Decision Empowerment: The ability to make decisions based on real-time data
c. Skill Empowerment: Improving digital literacy and technology competence

Theme 4: The Evolution of Professional Identity

Digital transformation is changing the professional identity from "system operator" to "digital asset manager". Informant AH explained, "All administrative processes are carried out through SIMAN so that it is more orderly and monitored." The evolution of this identity includes:

a. Technical Identity: From tool user to digital native professional
b. Social Identity: From individual workers to collaborative team members
c. Professional Identity: From administrator to strategic contributor

Theoretical Model of BMN Digital Transformation

Based on the findings of the research, a theoretical model of BMN digital transformation can be developed that integrates the technological, organizational, and human dimensions:

Digital Transformation BMN = f (Technology, Organization, People, Governance)

Where:

- Technology = System integration + Automation + Real-time processing
- Organization = Hierarchical structure + Business processes + Work culture
- Human = Adaptation + Competence + Resistance
- Governance = Transparency + Accountability + Efficiency

This model shows that the success of BMN's digital transformation does not only depend on technological aspects, but also on organizational readiness, human capacity, and effective implementation of good governance.

Strategic Implications for National Resilience

The transformation of SIMAN V2 has broad strategic implications for Indonesia's maritime national resilience:

1. Strengthening Maritime Infrastructure: Optimizing the management of maritime education assets through SIMAN V2 strengthens the national maritime human resource infrastructure. The Surabaya Sailing Polytechnic as a strategic institution in the development of maritime human resources requires an efficient asset management system to support professional seafarer education and training programs.
2. Digital Sovereignty in Maritime Education: The implementation of an integrated digital system ensures data sovereignty in the maritime education sector. This is important

considering that the maritime sector is a strategic area related to national security and defense.
3. Institutional Resilience Building: Adaptive capacity building of maritime education institutions through good governance practices creates resilience to various external challenges, including changes in international regulations and the dynamics of the global maritime industry.

Validation of Findings through Triangulation

Validation of research findings is carried out through triangulation of data, sources, and theories:

1. Data Triangulation: The consistency of findings from interviews, observations, and documentation shows high validity. All data sources confirm a significant transformation in organizational structure, work processes, and work culture.
2. Triangulation of Sources: Perspectives from various levels of users (Supervisors, Coordinators, Analysts) and external stakeholders (KPKNL, Ministry of Transportation) provide comprehensive validity to the research findings.
3. Theory Triangulation: The consistency of the findings with the Theory of Organizational Change and Good Governance shows strong theoretical relevance. The transformation that occurs is in accordance with theoretical predictions about technology-based organizational change.

Limitations and Recommendations for Advanced Research

This study has limitations in terms of geographical and temporal coverage. The research was conducted at one institution in a limited period of time, so generalization of results requires caution. Recommendations for further research include:

1. Comparative Study: Comparing the implementation of SIMAN V2 in different institutions with different characteristics
2. Longitudinal Study: Examining the long-term impact of digital transformation on organizational performance
3. Quantitative Assessment: Developing quantitative measurement instruments to measure the level of digital transformation
4. Impact Evaluation: Evaluating the impact of transformation on strategic outcomes such as budget efficiency and service quality

This research makes an important contribution in understanding the dynamics of digital transformation in the public sector, especially in the context of state asset management. The findings show that successful digital transformation requires a holistic approach that synergistically integrates technology, organizational, human, and governance aspects.

CONCLUSION

The implementation of *SIMAN* Version 2 at Surabaya Sailing Polytechnic drove comprehensive organizational transformation across structure, processes, culture, information access, and supervision, markedly enhancing accountability via activity logs, multi-level authorization, and audit trails; transparency through real-time visibility, multi-stakeholder access, and automated reporting; and operational efficiency by automating processes,

eliminating duplication, and boosting responsiveness. Despite initial hurdles like user resistance and technical glitches, intensive training and ongoing support facilitated successful adaptation, aligning with good governance principles and bolstering national resilience through optimized state assets (*BMN*), data sovereignty, and adaptive capacity. For future research, longitudinal studies could track the long-term sustainability of these gains and explore scalability across diverse public sector institutions, including comparative analyses with private sector digital transformations.

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