



Digital Transformation Of Administration Of The Faculty Of Engineering, University Of Lampung Through Integration Of Information Technology Systems

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Received: 20 October 2025

Accepted: 09 December 2025

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Abstract: The Faculty of Engineering, University of Lampung (FT Unila), continues to face challenges in administrative management, which is largely manual and unintegrated. This situation results in slow, inefficient, and error-prone service processes. Digital transformation is a strategic necessity to improve efficiency, accuracy, and transparency in administrative governance. This research aims to map administrative procedures relevant to the implementation of information technology and to develop digital governance in the form of standard operating procedures (SOPs) based on IT governance principles. The research's importance lies in its contribution to the modernization of engineering higher education administration through a standardized and systematic approach. The research results are expected to provide practical benefits in the form of ready-to-implement SOP documents, scientific benefits as a reference for digital governance development, and institutional benefits in supporting the achievement of key performance indicators (KPIs) and enhancing the reputation of FT Unila. With this approach, the research provides a strong foundation for the development of digital administration that aligns with national policies and global challenges in the higher education environment.

Keywords: Digital transformation, administrative governance, information technology, SOP, engineering higher education, FT Unila

1. INTRODUCTION

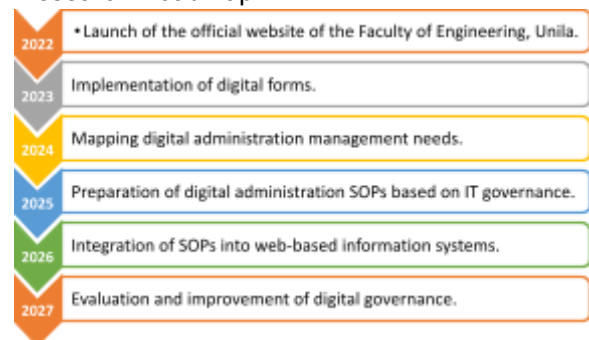
The Faculty of Engineering, University of Lampung, is a higher education institution specializing in engineering. It offers seven departments and study programs ranging from Diploma 3 to Master's degrees. The Faculty of Engineering, located on the Unila campus in Bandar Lampung, has been in existence since 1984. The faculty was established to meet the need for professional engineers in Sumatra. To date, the Faculty is committed to education, research, and community service.

Administration is the process of managing information and documents within an organization. At the Faculty of Engineering, Unila, administration encompasses academic, financial, and personnel activities. Currently, most processes are still manual and decentralized. Reliance on physical documents leads to slow and inefficient workflows, hindering service delivery and decision-making.

Information technology offers solutions for more efficient administrative management. Information systems address the need for speed, accuracy, and integration across work units. Users can access data in real time, regardless of location and time. This enables cross-departmental collaboration without relying on physical documents. This opportunity drives the need for digital governance.

2. MATERIALS AND METHODS

2.1 Research Roadmap



2.2 Research Stages

The research consisted of seven stages: Problem Formulation, Motivation Determination, Idea Development, Design, Prototype Creation, Testing, Further Development, and Implementation/Release.

1. Problem Formulation

- Output: Problem Formulation Report
- Indicator: Problems that need solutions are mapped
- The entire team, led by the team leader, formulates the problem.

2. Motivation Determination

- Output: User Needs.
- Indicator: User needs are explicitly stated.
- The team leader sees the relationship between

the problem and the solutions enabled by

information technology.

3. Development of digital administration procedures

- Output: digital administration procedures
- Indicator: Development of digital administration

procedures that meet needs

- The entire team, led by the team leader, develops digital administration procedures.

4. Testing

- Output: Results of the digital administration procedure test
- Indicator: Test results are known so improvements can be made or quality is declared achieved
- Implemented by members with monitoring by the team leader.

5. Further Development

- Output: Revised digital administration procedure based on test results
- Indicator: Improvements to the digital administration procedure based on input from test results
- Implemented by members with monitoring by the team leader.

6. Implementation/Release

- Output: Final digital administration procedure
- Indicator: Final digital administration procedure

that meets quality standards is obtained
all members.

The final stage is reporting, at this stage all activities related to the research carried out are reported and the results of the research are reported so that conclusions are obtained from the research that has been carried out.

2.3 Creating Digital Administrative Procedures

2.3.1 Identify Administrative Flow for Digital Governance.

Relevant workflows for digital transformation were identified. The team utilized observation notes and input from previous stages. Administrative units were grouped based on function and process complexity. This data served as the starting point for developing digital-based procedure designs. Only processes that could be transformed through information systems were selected.

2.3.2 Service Classification and Categories

Identified processes are grouped by type of administrative service. The main categories include academic, personnel, financial, and general services. Each category is analyzed to determine the complexity and urgency of digitalization. This classification facilitates prioritization in developing digital SOPs. Only services with broad impact and frequent use are prioritized.

2.3.3. Process Flow Mapping

Service flows are mapped using a business process mapping approach. The BPMN model is used to depict actors, activities, and documents. Mapping helps identify duplication, bottlenecks, and automation opportunities. Process visualization clarifies the sequence of steps and digital system integration points. The mapping results serve as a direct reference for developing digital SOPs.

2.3.4 Digital SOP Development

Each mapped process is translated into a digital SOP. The SOP structure includes objectives, scope, procedures, and responsible parties. The development adheres to IT governance and administration document standards. The language used is functional, concise, and user-friendly. SOPs are developed digitally for integration into information systems.

2.3.5. Internal Validation and Revision

The developed SOPs were tested through limited simulations with internal users. The team recorded feedback regarding the clarity, appropriateness, and completeness of the procedures. Revisions were made based on feedback from relevant service providers. Adjustments also included formatting, terminology, and workflows that were not yet optimal. The goal was to ensure the SOPs were ready for implementation without technical obstacles.

2.3.6 Finalization and Documentation

The revised SOPs are finalized in a distribution-ready digital format. Documents are stored electronically with consistent naming and versioning. All SOPs are compiled in the Unila Faculty of Engineering's internal repository. Documentation includes a list of SOPs, metadata, and usage guidelines. This step ensures sustainable implementation and ease of auditing.

3. Results and Discussions

3.1 Observation Results and Implementation of Activities

The research on the Digital Transformation of the Faculty of Engineering Administration at the University of Lampung through Information Technology System Integration began with an observation of the existing state of the faculty administration. Based on initial observations, most administrative activities, such as correspondence, archiving, and reporting, were still performed manually, often leading to delays and data duplication.

The research began with a mapping of digital system requirements in each administrative division. This was followed by the design and implementation of an integrated information system encompassing digital mail management (e-office), a cloud-based archiving system, and an administrative service dashboard. The implementation of this system involved educational staff and lecturers as the primary users.

3.3.1 Initial Survey and System Needs

Identification

The initial stage of the research involved a survey and interviews with administrative staff at the Faculty of Engineering to identify administrative issues and system needs. The survey results revealed that most administrative staff experienced challenges in document management and inter-unit communication due to the lack of an integrated system. Furthermore, there was a need to expedite correspondence and reporting processes, as well as improve data security. These findings formed the basis for designing a digital system that connects all administrative units within the faculty.

3.3.2 Implementation and Training of the Digital System

After the needs analysis was completed, the digital information system implementation phase began. This system was built using a web-based platform for easy access by all faculty users. The implementation process included server installation, database configuration, and user account creation according to access levels.

3.3.3 Implementation Results and User Response

After the system was fully implemented, results showed significant efficiency improvements. Document processing time was reduced by an average of 40%–60%, data input errors decreased, and inter-unit coordination improved due to real-time document access.

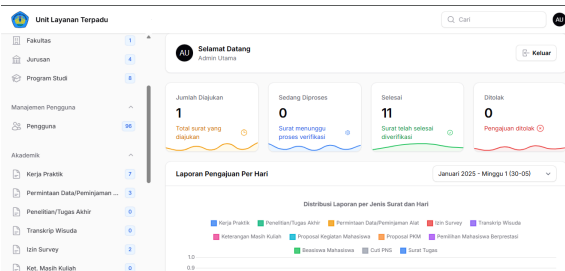


Figure 1. Admin Dashboard

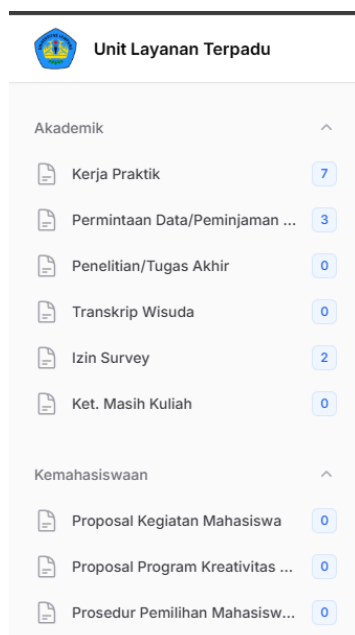


Figure 2 Service Units at the Faculty of Engineering

3.2 Activity Impact Analysis

This activity successfully improved the administrative staff's ability to operate information technology systems. Prior to the program, most education personnel were unfamiliar with using web-based applications. However, after training, they were able to manage data, create reports, and communicate independently through digital systems.

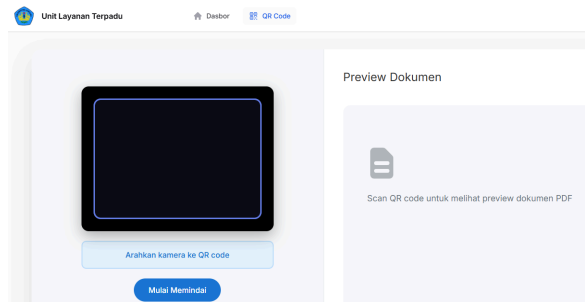


Figure 3. QR Code for Checking the Validity of Letters

Improving the Digital Competence of Education Personnel

The integration of administrative systems results in significant time and operational cost efficiencies. With a single, centralized platform, data retrieval, mail management, and reporting are faster and more accurate. This demonstrates that the implementation of digital transformation is effective and aligned with faculty needs.

3.3 Social and Economic Impact

Socially, this activity builds a digital work culture within the Faculty of Engineering that is more transparent, collaborative, and efficient. The academic community becomes more adaptive to technological developments and is motivated to continue innovating in public services.

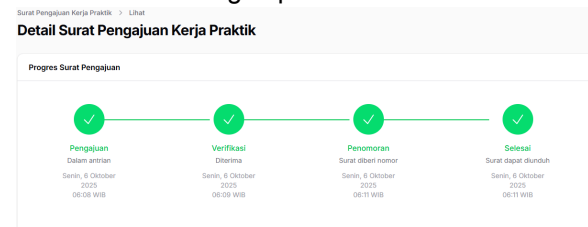


Figure 4. Timeline for Submitting Letters

Economically, efficiency in administrative processes results in faculty budget savings on operational costs such as paper, ink, and physical document storage. Furthermore, increased work productivity also adds value to the institution's overall performance.



Figure 5. Letter Submission Information

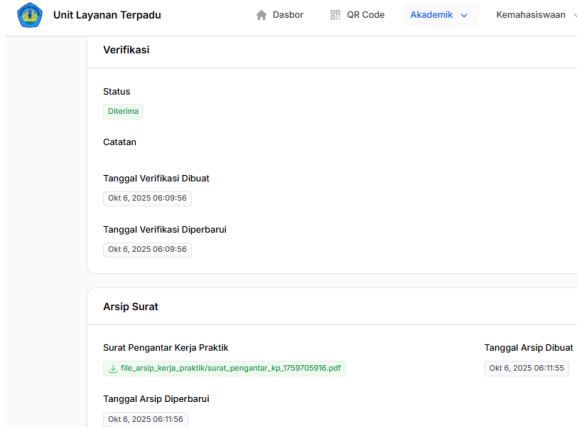


Figure 6 Verification and Archiving of Letters

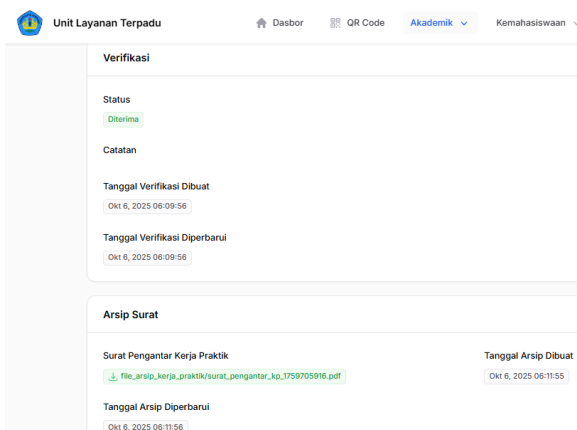


Figure 7. Results of the letter that has been verified using the QR Code

Program Sustainability

This digital transformation has the potential to be implemented sustainably by expanding integration to all units at the University of Lampung. With the support of adequate technological infrastructure and improved human resource competencies, this system can become a model for digital-based administrative management within the university.

3.4 Program Evaluation and Reflection

Success Rate Based on Targets and Outputs

The program successfully achieved its primary target, namely the implementation of an integrated digital administration system within the Faculty of Engineering. All work units are connected through the e-office system, and educational staff are now able to use the application independently. The outputs of the program include a functioning digital system and increased human resource capacity.

4. CONCLUSIONS

Based on the research conducted on the Digital Transformation of the Faculty of Engineering Administration at the University of Lampung through Information Technology System Integration, it can be concluded that the implementation of a digital administration system has significantly improved the efficiency and quality of administrative services within the faculty. The research shows that the integration of information technology systems can simplify administrative work processes, reduce data redundancy, and accelerate service delivery for lecturers, students, and educational staff. The use of digital systems also improves the accuracy of data management and facilitates reporting and monitoring of administrative activities.

ACKNOWLEDGMENTS

Thank you to the research team and the Faculty of Engineering and LPPM, University of Lampung

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