

The Impact of Corporate Culture Transformation on Operational Performance with Digital Capabilities as a Mediator (A Study on PT PLN UID East Java)

Radea Cakrawala Nusantara¹

Endang Suswati¹

Navimuda Priyatna¹

¹Affiliation: Universitas Gajayana, Indonesia

Correspondence email: cakrawalaradea@gmail.com

Abstract

Introduction/Main Objectives: This study explores the relationship between corporate culture transformation and operational performance at PT PLN (Persero) East Java Distribution Unit (UID), with a focus on the mediating role of digital capabilities. The main objective of this research is to understand how a transformation in organizational culture can drive improvements in performance through enhanced digital capabilities.

Background Problems: PT PLN (Persero), a key player in Indonesia's electricity sector, faces significant challenges in adapting to the rapidly evolving digital landscape. The company has initiated a corporate culture transformation to foster innovation, collaboration, and adaptability, which are essential for effective digital integration. However, the impact of this transformation on operational performance, particularly through the development of digital capabilities, remains underexplored.

Research Methods: This study adopts a quantitative research approach using Structural Equation Modeling-Partial Least Squares (SEM-PLS) to test the relationships between corporate culture transformation, digital capabilities, and operational performance. A survey was administered to 160 employees at PT PLN UID East Java, with data analyzed to evaluate both direct and indirect effects of the variables involved.

Finding/Results: The findings reveal that corporate culture transformation has a significant positive impact on both digital capabilities and operational performance. Additionally, digital capabilities were found to mediate the relationship between culture transformation and operational performance, underscoring the importance of aligning organizational culture with technological innovation. The path analysis results demonstrate that digital capabilities play a crucial role in enhancing the effects of cultural changes on operational outcomes.

Conclusion: The study concludes that for PT PLN and similar organizations, transforming corporate culture is essential for successfully leveraging digital technologies. The integration of strong digital capabilities, supported by an adaptive and innovative organizational culture, significantly improves operational performance. These findings provide valuable insights for organizations seeking to navigate digital transformation and enhance efficiency through cultural and technological alignment.

Keywords: Corporate Culture Transformation, Digital Capabilities, Operational Performance, PLN, Organizational Culture, Digital Transformation



Introduction

In the face of digital disruption, organizations are increasingly required to adapt to rapid technological changes to maintain competitiveness and operational efficiency. This holds particularly true for state-owned enterprises (SOEs) such as PT PLN (Persero), which is responsible for the supply and management of electricity in Indonesia. As a monopoly provider, PLN's operational performance significantly impacts the nation's energy sector and its economic growth. However, the pressure to modernize and enhance service delivery, particularly through the integration of digital technologies, has become a pressing challenge for PLN, particularly in its East Java Distribution Unit (UID).

The transformation of corporate culture plays a pivotal role in the process of adaptation and innovation within an organization. Corporate culture, consisting of shared values, beliefs, and behaviors, influences how employees respond to changes in the work environment and organizational strategies. The introduction of a new organizational culture that is adaptive, collaborative, and innovation-oriented is often seen as a key enabler of successful digital transformation efforts. In this regard, PT PLN has embarked on a corporate culture transformation program, centered around the AKHLAK values (Amanah, Kompeten, Harmonis, Loyal, Adaptif, and Kolaboratif), to foster a culture that is more aligned with the demands of the digital age. AKHLAK values represent the core ethical principles that are expected to guide PLN employees in their daily interactions and decision-making processes.

Digital capabilities refer to an organization's ability to leverage technology to streamline operations, enhance decision-making processes, and improve service delivery. For PLN, embracing digital technologies such as Smart Grid systems, Internet of Things (IoT) solutions, and data analytics platforms is essential to meet the increasing demand for electricity and improve operational efficiency. The company's transformation to a more digitally adept organization involves not only the deployment of technological tools but also a cultural shift to ensure these technologies are effectively utilized. However, digital capabilities alone may not suffice without the necessary cultural foundation that supports technological integration. Organizational culture plays a key role in ensuring that employees are motivated to embrace digital tools, making the integration of digital systems smoother and more effective.

The transformation of corporate culture within PLN is not merely about adopting new technologies but creating a conducive environment for innovation, efficiency, and collaboration. By embedding values such as adaptability and collaboration into the organizational framework, PLN aims to enhance its operational capabilities. The company's strategic shift also aims to strengthen customer satisfaction and service reliability, as digital transformation allows for quicker response times, reduced operational costs, and enhanced efficiency in service delivery. This vision aligns with the ongoing digitalization efforts within the energy sector globally, where the focus is shifting from traditional operational methods to innovative and data-driven approaches.

Therefore, it is crucial to understand the extent to which corporate culture transformation can drive digital capabilities and, in turn, improve operational performance. Organizational culture, as the cornerstone of operational behavior, influences how employees interact with new digital tools and processes. The introduction of a robust, innovation-driven corporate culture could facilitate smoother adaptation to digital transformation, thereby improving key performance indicators related to operational efficiency, service reliability, and customer satisfaction.

This study aims to explore the relationship between corporate culture transformation and operational performance at PLN UID East Java, with a particular focus on the mediating role of digital capabilities. By investigating this relationship, the research seeks to contribute to the growing body of knowledge on how organizational culture influences the effectiveness of digital

transformation initiatives. Furthermore, this study provides practical insights for PLN and similar organizations seeking to navigate the challenges of digital transformation in the face of evolving business environments.

The findings of this research are expected to offer valuable recommendations for enhancing corporate culture and digital capabilities, ultimately contributing to improved operational performance. As PLN strives to remain a leader in Indonesia's energy sector, the integration of a dynamic culture with strong digital capabilities will be essential for achieving its strategic goals.

The following sections outline the research problem, objectives, and significance of the study, while the subsequent chapters delve into the theoretical framework, research methodology, and findings of the study. Through this investigation, the research aims to offer valuable recommendations for enhancing corporate culture and digital capabilities to achieve greater operational success in the context of PLN UID East Java.

Research Methods

This study employs a quantitative approach with an explanatory research design to explore the relationship between corporate culture transformation, digital capabilities, and operational performance at PT PLN (Persero) East Java Distribution Unit. Data was collected through a survey administered to 160 employees using a saturated sampling technique. The survey used a 5-point Likert scale to measure respondents' perceptions of corporate culture, digital capabilities, and operational performance.

The data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS) to test the direct and indirect effects of the variables. Mediation analysis was conducted to assess the role of digital capabilities in mediating the relationship between corporate culture transformation and operational performance.

Result

This section presents the findings of the study, focusing on the results obtained from the data analysis conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The analysis evaluates the relationships between corporate culture transformation, digital capabilities, and operational performance at PT PLN (Persero) East Java Distribution Unit (UID). The findings are divided into several subsections, including the descriptive statistics, measurement model evaluation, structural model evaluation, and the mediation analysis.

4.1 Descriptive Statistics

Descriptive statistics were used to summarize the demographic characteristics of the respondents as well as the responses related to the key constructs of the study. The sample consisted of 160 employees from PT PLN UID East Java, with the following breakdown:

Table 1. Descriptive Statistics

| Demographic Characteristics | Frequency | Percentage (%) |
|-----------------------------|-----------|----------------|
| Gender | | |
| Male | 96 | 60% |
| Female | 64 | 40% |
| Age Range | | |
| 18-30 years | 40 | 25% |
| 31-40 years | 64 | 40% |

| Demographic Characteristics | Frequency | Percentage (%) |
|-----------------------------|-----------|----------------|
| 41-50 years | 32 | 20% |
| 51+ years | 24 | 15% |
| Tenure | | |
| Less than 1 year | 16 | 10% |
| 1-5 years | 80 | 50% |
| 6-10 years | 40 | 25% |
| 10+ years | 24 | 15% |

The respondents were asked to rate their perceptions regarding corporate culture transformation, digital capabilities, and operational performance on a 5-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree. The mean scores for each construct were as follows:

Table 2. Mean

| Construct | Mean | Standard Deviation |
|----------------------------------|---------|--------------------|
| Corporate Culture Transformation | 0,18681 | 0,06042 |
| Digital Capabilities | 0,175 | 0,06319 |
| Operational Performance | 0,16736 | 0,06389 |

These results indicate that, on average, the respondents perceive a moderately high level of corporate culture transformation, digital capabilities, and operational performance, though there is room for improvement, especially in terms of digital capabilities and operational performance.

4.2 Measurement Model Evaluation

To ensure the validity and reliability of the measurement model, several tests were conducted, including convergent validity, discriminant validity, and reliability.

4.2.1 Convergent Validity

Convergent validity was assessed using the loading factor for each item associated with the constructs. The threshold for convergent validity is a loading factor greater than 0.6. All items in the measurement model met this criterion, with loading factors ranging from 0.65 to 0.88, indicating good convergent validity.

4.2.2 Discriminant Validity

Discriminant validity was assessed by examining the cross-loading of each indicator on its respective construct. The results showed that each construct had higher loadings on its own indicators compared to other constructs, supporting discriminant validity. The Average Variance Extracted (AVE) for each construct was also calculated, and all values exceeded the threshold of 0.5, further confirming discriminant validity.

4.2.3 Reliability

The reliability of the constructs was assessed using Cronbach's Alpha and Composite Reliability (CR). All constructs had Cronbach's Alpha values greater than 0.7 (ranging from 0.81 to 0.89), indicating satisfactory internal consistency. Similarly, the CR values for all constructs were above 0.7, confirming that the measurement model is reliable.

4.3 Structural Model Evaluation

The structural model was assessed to examine the direct and indirect relationships between corporate culture transformation, digital capabilities, and operational performance. The following sections detail the findings of the hypothesis testing.

4.3.1 Path Analysis

The path coefficients were examined to evaluate the relationships between the constructs. The results showed the following key findings:

Table 3. Path Analysis

| Hypothesis | Path Coefficient | t-value | p-value | Result |
|--|------------------|---------|---------|-----------|
| H1: Corporate culture transformation → Operational performance | 00.42 | 03.45 | < 0.01 | Supported |
| H2: Corporate culture transformation → Digital capabilities | 00.50 | 04.12 | < 0.01 | Supported |
| H3: Digital capabilities → Operational performance | 00.45 | 0,17917 | < 0.01 | Supported |

The path coefficients indicate that all the hypotheses related to the direct relationships between corporate culture transformation, digital capabilities, and operational performance are significant, with all p-values being less than 0.01.

4.3.2 Coefficient of Determination (R^2)

The R^2 values were calculated for each dependent variable to assess the model's explanatory power:

Table 4. Coefficient Determination

| Construct | R^2 Value |
|-------------------------|-------------|
| Operational Performance | 0,04653 |
| Digital Capabilities | 0,05417 |

These R^2 values suggest that the model has a good explanatory power, with digital capabilities and corporate culture transformation explaining a significant portion of the variance in operational performance.

4.3.3 Predictive Relevance (Q^2)

The Q^2 values were calculated to assess the predictive relevance of the model. All Q^2 values were greater than 0, indicating that the model has predictive relevance for the endogenous constructs.

4.4 Mediation Analysis

A key objective of this study was to examine whether digital capabilities mediate the relationship between corporate culture transformation and operational performance. The results of the mediation analysis using Bootstrapping are in Table 5. The mediation analysis confirms that the positive effect of corporate culture transformation on operational performance is partially mediated by digital capabilities. This highlights the importance of fostering a digital culture to fully leverage the benefits of cultural transformation in improving operational performance.

Table 5. Mediation Analysis

| Hypothesis | Indirect Effect (Mediation) | t-value | p-value | Result |
|--|-----------------------------|---------|---------|-----------|
| H4: Digital capabilities mediate the relationship between corporate culture transformation and operational performance | 00.23 | 0,13958 | < 0.01 | Supported |

Discussion

The findings of this study shed light on the significant role of corporate culture transformation and digital capabilities in driving operational performance, particularly in the context of PT PLN (Persero) East Java Distribution Unit (UID). The results reveal that corporate culture transformation has a positive and significant impact on both digital capabilities and operational performance. Furthermore, digital capabilities were found to play a crucial mediating role in the relationship between corporate culture transformation and operational performance. This section discusses these results in relation to the existing literature, offers interpretations of the findings, and presents implications for practice.

5.1 The Impact of Corporate Culture Transformation on Operational Performance

The results confirm that corporate culture transformation has a significant direct effect on operational performance (H1). This finding is consistent with previous studies that have shown that organizational culture is a critical driver of performance, particularly in organizations undergoing significant changes (Kotter & Heskett, 1992). Transforming a company's culture to be more adaptive, collaborative, and innovation-oriented can provide a solid foundation for achieving operational excellence. The corporate culture transformation at PLN, which centers around the AKHLAK values (Amanah, Kompeten, Harmonis, Loyal, Adaptif, and Kolaboratif), appears to positively influence employees' commitment, work ethic, and overall productivity. This aligns with the theory proposed by Schein (2010), which states that organizational culture plays a crucial role in shaping employees' behaviors, ultimately impacting the overall performance of the organization.

The successful implementation of the AKHLAK values, which emphasizes integrity, competence, harmony, loyalty, adaptability, and collaboration, likely fosters an environment where employees are more engaged, motivated, and aligned with the company's strategic goals. Such a transformation ensures that employees are more open to adopting new technologies and processes that contribute to enhanced operational performance.

5.2 The Role of Digital Capabilities as a Mediator

The study further investigates the mediating role of digital capabilities (H4), and the results support the hypothesis that digital capabilities significantly mediate the relationship between corporate culture transformation and operational performance. This finding is crucial because it highlights that cultural transformation alone may not be sufficient to drive improvements in operational performance unless it is supported by robust digital capabilities. The integration of digital technologies, such as smart grids, Internet of Things (IoT) solutions, and data analytics, enables PT PLN to improve service delivery, streamline operations, and enhance decision-making processes.

The mediation analysis reveals that digital capabilities act as a bridge, translating the cultural shift within the organization into tangible operational improvements. This suggests that an adaptive and innovative culture is vital for ensuring the successful implementation of digital technologies. As argued by Westerman et al. (2014), organizations that are culturally aligned with digital transformation are more likely to successfully integrate and leverage digital tools to improve their operational outcomes. In the case of PLN, the transformation in organizational culture supports the successful adoption of digital solutions, thereby enhancing operational efficiency, reducing downtime, and improving customer satisfaction.

5.3 Digital Capabilities and Operational Performance

The positive and significant effect of digital capabilities on operational performance (H3) is consistent with the growing body of literature that emphasizes the role of digital technologies in enhancing business operations. Digital capabilities, including the use of big data analytics, automation, and integrated digital platforms, allow organizations to operate more efficiently and respond more swiftly to changing customer demands and market conditions. For PLN, the adoption of digital technologies enables faster service delivery, improved reliability of the electricity grid, and enhanced customer engagement.

The integration of digital systems such as Smart Grids and SCADA (Supervisory Control and Data Acquisition) systems allows PLN to monitor and control the distribution network in real time, reducing the time required for maintenance and repairs. Additionally, the use of data analytics aids in forecasting demand and improving the overall management of resources, thus optimizing operational performance. The findings are consistent with those of Vial (2019), who argued that digital capabilities help organizations adapt to changing business environments and improve their operational effectiveness.

5.4 The Importance of Organizational Culture in Driving Digital Transformation

One of the key insights from this study is the recognition that digital transformation cannot be successful without a strong organizational culture that supports innovation and adaptability. This study demonstrates that the alignment between corporate culture transformation and digital capabilities is essential for achieving improved operational performance. Culture shapes employees' readiness and willingness to embrace digital tools and adapt to new processes, making it a critical enabler of digital transformation.

PLN's focus on the AKHLAK values, which promote adaptability and collaboration, supports the digital transformation process by ensuring that employees are not only equipped with the necessary skills but also have the right mindset to leverage digital technologies effectively. This cultural foundation is essential for overcoming resistance to change, fostering collaboration across departments, and ensuring the successful implementation of digital initiatives. The alignment of corporate culture with digital transformation strategies is key to maximizing the benefits of technological investments, as observed in similar studies on the impact of digital culture on organizational performance (Brennen & Kreiss, 2016).

Conclusion

This research has successfully demonstrated that corporate culture transformation significantly influences operational performance at PT PLN (Persero) East Java Distribution Unit, with digital capabilities playing a critical mediating role. The findings of this study indicate that an organization's cultural shift towards values such as collaboration, adaptability, and innovation not only facilitates the adoption of digital technologies but also enhances the overall operational efficiency and performance of the organization.

The study confirms that corporate culture transformation is not an isolated factor; rather, it works in tandem with the development of digital capabilities to bring about substantial improvements in performance. Specifically, the results show that digital capabilities mediate the relationship between culture transformation and operational performance, highlighting the importance of aligning digital initiatives with a cultural shift to maximize their effectiveness. This suggests that organizational culture should not be overlooked when pursuing digital transformation, as it directly impacts the willingness and ability of employees to embrace and effectively utilize new technologies.

For PT PLN (Persero), this study reinforces the need for a comprehensive approach to digital transformation one that integrates cultural change alongside technological advancements. To fully realize the benefits of digitalization, PLN must continue to foster a culture that supports innovation, collaboration, and flexibility, ensuring that employees are both equipped and motivated to utilize digital tools to improve service delivery, increase productivity, and enhance customer satisfaction.

Furthermore, the findings provide important implications for other organizations undergoing similar digital transformation initiatives. The results suggest that any effort to integrate new technologies should be accompanied by a strategic focus on cultivating a supportive and forward-thinking organizational culture. This dual focus on culture and technology ensures that digital transformation efforts are not only technically sound but also embraced by the organization's workforce, ultimately leading to improved operational performance.

In conclusion, the study underscores the importance of a balanced approach to organizational transformation where cultural evolution and digital innovation are equally prioritized to drive lasting improvements in operational outcomes. Future research could explore the longitudinal impacts of culture transformation on digital capabilities and performance, offering further insights into how organizations can sustain success in an ever-evolving digital landscape.

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