

# The Influence of Digital Transformational Leadership and Organizational Agility on the Success of Digital Transformation In the Regional Office of the Directorate General of Treasury of Aceh Province: the Role of Digital Strategy and Digital Culture As Moderating Variables

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## Abstract

This research evaluates how digital transformational leadership and organizational agility contribute to the success of digital initiatives within the Regional Office of the Directorate General of Treasury in Aceh Province. Furthermore, the study investigates the moderating effects of digital culture and strategy. Utilizing a quantitative methodology, data were gathered from a total of 186 employees through a saturated sampling technique. The empirical evidence supports all proposed hypotheses, demonstrating that both leadership and agility are pivotal to digital success. Additionally, the findings highlight that a robust digital strategy and culture act as catalysts, strengthening the impact of the primary drivers within this government institution.

**Keywords:** Digital Transformational Leadership, Organizational Agility, Digital Strategy, Digital Culture, Digital Transformation

## 1. Introduction

Public organizations have undergone a fundamental shift in their service delivery and procedural management as a direct result of the high-speed progression of digital innovation. Digitalization is no longer merely the application of information technology; it has evolved into a strategic transformation that shapes the competitiveness, effectiveness, and quality of governance within public sector organizations. External environmental pressures such as demands for transparency and accountability, along with public expectations for fast, technology-driven services are compelling government agencies to continuously adapt (Darmawan et al., 2021).

According to Darmawan et al. (2021), achieving digital evolution within public institutions necessitates a holistic overhaul that spans technical integration, workflow reorganization, and the upgrading of personnel skills. For an organization to produce lasting societal benefits, it must synchronize its technical, structural, and cultural transitions. Ultimately, the effectiveness of this transformation is dictated less by the complexity of the software and more by the institution's capacity for change management and the adoption of digital principles into its routine operations.

Improving administrative effectiveness through digital transformation has become a central pillar of Indonesia's national agenda for bureaucratic reform. Under the framework of Presidential Regulation No. 95/2018 (SPBE), government agencies are directed to synchronize their public services through digital platforms. This initiative is further supported by the 2020–2024 RPJMN, which identifies digital adoption as

a vital tool for creating a more responsive and agile government. By prioritizing these technological shifts, the Indonesian government aims to significantly enhance its operational performance.

Within the Ministry of Finance, the Directorate General of Treasury (DJPb) plays a pivotal role in spearheading the digitalization of national fiscal management. Through the implementation of specialized platforms such as the State Treasury and Budget System (SPAN), the Agency-Level Financial Application System (SAKTI), and Digital Payment (Digipay), the agency has significantly improved the transparency and precision of public financial oversight. These technological advancements underscore the DJPb's dedication to a reform agenda centered on digital-led bureaucracy.

However, pre-survey results indicate that the success rate of digital transformation within the Directorate General of Taxes (DGT) still faces several challenges. The average digital transformation score of 3.71 suggests that the implementation of digitalization has progressed fairly well but is not yet fully optimal. Several aspects, such as integration between digital systems, cross-unit data utilization, and the interconnectedness of business processes, still require strengthening. This indicates that digital transformation has not been fully internalized throughout the organization.

According to various scholars, the realization of digital transformation is largely dependent on the quality of leadership within an institution. Digital transformational leadership facilitates the transition by providing a clear roadmap for change and fostering an innovative workplace atmosphere (Tulungen et al., 2022; Darmawan et al., 2021). Rather than focusing solely on the tools, these leaders integrate technology into the organization's broader mission. The significance of this leadership model is further validated by Jäger (2021), Imran et al. (2022), and Chatterjee et al. (2023), whose findings confirm that it remains a vital predictor of an organization's adaptability and its success in implementing digital reforms.

The pre-survey results indicated that digital transformational leadership within the Directorate General of Taxes (DGT) achieved an average score of 3.78, which is considered good. However, the indicator measuring leaders as role models in the use of digital technology scored relatively lower compared to other indicators. This finding suggests that although leaders have promoted a digital vision and demonstrated commitment, the actual use of technology by leaders has not yet been fully experienced by all employees, potentially hindering the acceleration of digital transformation adoption.

An organization's success in digital transformation is intrinsically linked to its ability to remain flexible and responsive. This organizational agility allows for the rapid adjustment of workflows and strategies in alignment with digital trends. As noted by Al Nuaimi & Singh (2022) and Alakaş (2024), entities characterized by high agility typically excel at managing technological disruptions and evolving expectations. Within the Directorate General of Taxes (DGT), while initial assessments reflect a strong baseline for organizational agility, the capacity to adapt specifically to the needs of stakeholders remains an area identified for further development.

The success of digital transformation is significantly influenced by the presence of a clear digital strategy and a supportive digital culture. A digital strategy serves as a guide for implementing digital initiatives that align with the organization's vision, while a digital culture shapes employee mindsets and behaviors in response to technology-driven innovations (Mithas et al., 2013; Khin & Ho, 2019). The pre-survey results indicate that the digital strategy and digital culture within the Directorate General of Taxes (DGT) are rated as good; however, challenges remain in unifying the digital vision and increasing employee involvement in digital-based strategic decision-making.

Despite the rapid growth of research on digital transformation, there remains limited comprehensive examination of the roles of digital transformational leadership and organizational agility within the public sector. Most prior studies have concentrated on the private sector, whereas government organizations face unique complexities and challenges (Appelbaum et al., 2020; Sienkiewicz et al., 2021). Moreover, research exploring the moderating effects of digital strategy and digital culture within a unified, integrated conceptual framework is still relatively scarce.

At the Regional Office of the Directorate General of Treasury of Aceh Province, this research analyzes how the success of digital transformation is shaped by organizational agility and leadership styles. In light of identified research gaps, the study also measures the moderating influence exerted by digital culture and strategic planning. The findings are poised to advance theoretical knowledge in public administration literature while offering actionable insights for formulating robust digital strategies and administrative policies in the public sector.

## **2. Theoretical Study**

### **2.1. Digital Transformation Success**

Fundamentally altering how an organization operates and provides value is the hallmark of successful digital transformation. This is accomplished through a strategic change process that integrates sophisticated tools such as big data and cloud computing into every facet of the institution. Rather than just digitizing existing activities, this transformation requires a total restructuring of work systems and organizational culture, creating a more interconnected and technologically advanced framework for organizational performance. Therefore, digital transformation represents an organization's strategic response to technological disruption, market dynamics, and the demands of an increasingly complex external environment, applicable to both private and public sectors (Vial, 2019; Al Nuaimi et al., 2022; Asif et al., 2024).

According to Alakaş (2024), Al Nuaimi et al. (2022), and Hinings et al. (2018), the sustainability of digital transformation depends on an organization's ability to manage change and overcome internal friction. This complex process is guided by digital leadership, which establishes a clear vision, and is supported by a comprehensive digital strategy that directs implementation efforts. Key drivers such as a culture of innovation and high levels of organizational agility allow for flexible responses to technological trends. Ultimately, the success of these efforts is built upon a foundation of adequate infrastructure and the digital proficiency of the workforce, ensuring that the transformation is both effective and enduring.

Rather than focusing solely on the acquisition of new tools, the evaluation of digital transformation success centers on the development of a connected and efficient work environment (Nasiri et al., 2020). This is measured through specific indicators such as the level of process automation, the capacity for data-driven decision-making, and the integration of internal networks. Moreover, the effectiveness of information exchange and the sophistication of digital user experiences provide a clear picture of how well digital values have been internalized. These metrics highlight the organization's ability to generate sustainable value through a modernized operational framework.

### **2.2. Digital Transformation Leadership**

At its core, digital transformational leadership involves the application of strategic technological resources within the framework of transformational values. Rather than viewing technology and leadership as separate entities, this approach treats them as a unified force for driving change and innovation across the entire organization. Leaders who adopt this approach not only establish a vision for digital change but also actively engage all organizational members in the digitalization process. By inspiring, motivating, and serving as role models, digital transformational leaders act as agents of change, fostering innovation, collaboration, and employee engagement to achieve the organization's digital transformation objectives (Al Nuaimi et al., 2022; Gupta & Kumar, 2022).

Furthermore, digital transformational leadership emphasizes a leader's ability to combine an inspiring vision with a strategic understanding of digital technology. This leadership style focuses not only on technology adoption but also on fostering an adaptive, innovative, and agile organizational culture. Digital transformational leaders are recognized for their capacity to enhance organizational agility, develop robust digital strategies, and reduce resistance to change by cultivating employee trust and commitment. Consequently, digital transformational leadership plays a crucial role in accelerating the success of digital

transformation through the synergy of leadership, technology, and organizational culture (Karippur & Balaramachandran, 2022; Alakaş, 2024).

According to Al Nuaimi et al. (2022), digital transformational leadership is more than just a technological orientation; it is deeply rooted in human-centric practices such as team cooperation and individual empowerment. From a measurement perspective, this is evidenced by a leader's proficiency in articulating a long-term vision and setting high expectations for performance. By serving as a consistent example and encouraging the adoption of shared institutional aims, these leaders ensure that digital values are woven into the daily fabric of the organization. This behavioral approach balances the drive for high performance with the necessity of providing personalized care to members.

### **2.3 Information Agility**

According to Teichert (2019) and Alakaş (2024), the hallmark of an agile organization is its ability to maintain performance excellence despite the instability caused by rapid digitalization. This agility is fueled by the strategic adoption of cloud computing and predictive analytics, which allow for more rapid and informed decision-making. Rather than adhering to traditional, heavy structures, agile organizations utilize lean frameworks and flexible mechanisms to respond to changing public needs. This strategic readiness ensures that the organization remains resilient and innovative, even as the complexity of the digital landscape increases.

An institution's ability to act adaptively is often a reflection of its cognitive capacity to utilize collective learning and shared values. This form of organizational agility involves not only a high-speed response to external shifts but also the systematic reconfiguration of internal resources to meet new demands. Consequently, agility serves as a bridge between an organization's intellectual capital and its functional performance in a changing environment. Agile organizations can respond to stakeholder needs, adapt work processes, and view change as a strategic opportunity. These characteristics are manifested in a flat organizational structure, adaptive leadership, and a collaborative culture that fosters continuous improvement and the creation of competitive advantage (Cegarra-Navarro et al., 2016; Al Nuaimi et al., 2022; Vaszkun & Sziráki, 2023).

### **2.4. Digital Strategy**

Digital strategy serves as a foundational framework that guides the direction and success of digital transformation within an organization. It involves integrated, long-term planning to systematically leverage digital technologies in support of business processes, organizational structure, and the achievement of strategic objectives. Unlike traditional operational approaches to information technology, digital strategy positions technology as a central component of the organization's overall strategy. According to Gessner et al. (2020), Fan & Ouppara (2022), and Alakaş (2024), the ability to maintain a competitive advantage in today's environment is rooted in a digital strategy that reshapes business models and governance. Rather than focusing exclusively on acquiring new software, this strategy prioritizes the adaptation of decision-making systems. Such a comprehensive transformation is essential for institutions seeking to create sustainable value amid the complexities of the digital age.

The success of digital transformation is largely dependent on a robust digital strategy, which acts as a pivot between organizational agility and transformational leadership. By harmonizing these two elements, the strategy provides the necessary framework for leaders to execute rapid changes while maintaining institutional stability and performance. A well-designed digital strategy enables an organization's leadership vision and adaptive capabilities to be translated into concrete digital policies, priorities, and initiatives. Conversely, the absence of a well-aligned digital strategy can result in fragmented implementation, resistance to change, and suboptimal technology utilization. Therefore, a digital strategy must be developed holistically, encompassing the integration of technology with business strategy, the development of a shared

vision regarding the role of technology, collaborative planning across units, and a strategic decision-making process that explicitly considers digital aspects. This approach enables organizations to improve operational efficiency, strengthen innovation, and accelerate value creation for stakeholders (Al Nuaimi et al., 2022; Li et al., 2021).

## 2.5. Digital Culture

According to studies by Khin & Ho (2019), An et al. (2024), and Shin et al. (2023), the ability of an organization to adapt to rapid technological evolution is deeply rooted in its digital culture. This culture is defined by behavioral patterns that prioritize transparency, data-driven insights, and a willingness to explore novel digital solutions. Rather than merely supporting the rollout of new software, digital culture functions as a fundamental social anchor that aligns organizational values with the ongoing necessity for innovation and adaptability in a complex digital era.

A vibrant digital culture is observable in workplaces that champion collective problem-solving and multidisciplinary cooperation over traditional authority. By abandoning strict top-down structures, organizations empower their entire workforce to contribute to tech-driven progress. According to Shin et al. (2023), this cultural framework acts as a vital catalyst for an inclusive and creative environment. Ultimately, it strengthens the outcomes of digital transformation and fosters a sustainable increase in overall institutional performance.

## 3. Research Methods

Using SmartPLS 3 software, this study performed a Partial Least Squares (PLS) analysis based on a Structural Equation Modeling (SEM) methodology. The data analyzed originated from 186 employees at the Regional Office of the Directorate General of Treasury (DJPB) in Aceh. Because the population was relatively limited, a saturation sampling technique was utilized, ensuring that all 186 members were included in the research sample. This approach allowed for a comprehensive assessment of the organizational dynamics within the specific regional context.

## 4. Research Results and Discussion

### 4.1. Hypothesis Testing

The testing of the research hypothesis is as in Table 1 below.

**Table 1. Path Coefficient**

Variables	Original Sample	Sample Mean	Standard Deviation	T-statistics	P-values
Digital Transformational Leadership → Digital Transformation Success	0.256	0.254	0.064	4,025	0.000
Organizational Agility → Digital Transformation Success	0.192	0.199	0.065	2,949	0.000

Source: Processed Primary Data, (2025)

#### 4.1.1. Direct Hypothesis

To evaluate the influence of individual predictors on digital transformation outcomes, direct path analysis was employed. The relationship regarding Digital Transformational Leadership produced an original sample value of 0.256. With a t-statistic of 4.025 and a p-value (0.000) well within the 5% significance level, the data provides strong evidence for a significant positive relationship. These findings suggest that as digital transformational leadership practices improve, the success rate of digital transformation increases accordingly. Consequently, the hypothesis is supported by the empirical data.

As demonstrated by the statistical results in the PLS-SEM model, the hypothesis asserting that organizational agility positively influences digital transformation success is accepted. This conclusion is based on a path coefficient of 0.192 and a p-value of 0.000, which indicates statistical significance ( $p < 0.05$ ). With a t-statistic of 2.949, the data confirms that as an institution becomes more agile and responsive to change, its capacity to implement successful digital transformation improves. These findings underscore agility as a critical internal driver for modernization.

#### 4.1.2. Moderation Hypothesis Testing

The testing of the moderation hypothesis of this study is as in Table 2 below.

**Table 2. Moderation Test Results**

Variables	Original Sample	Sample Mean	Standard Deviation	T-statistics	P-values
Digital Strategy → Digital Transformation Success	0.200	0.199	0.075	2,667	0.008
Digital Culture → Digital Transformation Success	0.215	0.214	0.084	2,571	0.010
Moderating Effect 1 (Digital Transformational Leadership x Digital Strategy) → Digital Transformation Success	0.255	0.245	0.082	3,106	0,000
Moderating Effect 2 (Organizational Agility x Digital Strategy) → Digital Transformation Success	-0.077	-0.080	0.076	1,019	0.309
Moderating Effect 3 (Digital Transformational Leadership x Digital Culture) → Digital Transformation Success	-0.151	-0.150	0.066	2,277	0.023
Moderating Effect 4 (Organizational Agility x Digital Culture) → Digital Transformation Success	-0.104	-0.118	0.087	1,193	0.234

Source: Processed Primary Data, (2025)

Statistical evidence from the SEM-PLS model indicates that the moderating influence of Digital Strategy is only present in its interaction with leadership. For the first hypothesis, a p-value of 0.000 and a t-statistic of 3.106 demonstrate that Digital Strategy effectively bolsters the relationship between Digital Transformational Leadership and successful transformation. Conversely, the moderation test for Organizational Agility was rejected, as the p-value (0.309) remained above the standard 0.05 level of significance. This suggests that the influence of agility on digital success remains independent of the organization's digital strategy.

Based on a p-value of 0.023 and a t-statistic of 2.277, Digital Culture was found to significantly moderate the impact of Digital Transformational Leadership. Interestingly, the negative coefficient of -0.151 implies that the presence of certain cultural values weakens rather than strengthens the leadership's contribution to digital transformation. This was not the case for Organizational Agility; the fourth moderation test yielded a p-value of 0.234, indicating that the interaction is not statistically significant. Therefore, Digital Culture does not play an intervening role in how organizational agility affects the overall success of digital transformation within the studied population.

## 4.2. Discussion

According to Alakaş (2024) and Türk (2023), leadership is the decisive factor in navigating the rigidities of public sector bureaucracy during digital shifts. This is confirmed by the current study, which identifies Digital Transformational Leadership and Organizational Agility as the core drivers of transformation success. Unlike these direct drivers, Digital Strategy and Digital Culture function as selective moderators, appearing only in specific structural relationships. The results highlight that leadership quality is the cornerstone of the transformation process, as it provides the vision and inspiration necessary to move beyond mere technology adoption. This research emphasizes that the "human element" of leadership is what ultimately allows public organizations to transcend procedural hurdles and embrace a digital-first future.

The research highlights that the ability of an organization to remain flexible is just as vital as leadership for achieving digital objectives. Agile organizations can effectively reconfigure their processes to seize opportunities presented by modern digital tools, thereby accelerating their transformation journey. As Alakaş (2024) suggests, this responsiveness is a vital precursor to strategic success in volatile environments. Furthermore, this study identifies digital strategy as a catalyst that strengthens the link between leadership and transformation outcomes. When a leader's innovation is backed by a cohesive strategic framework, the overall impact on the organization is intensified. This alignment ensures that leadership vision is translated into actionable programs, helping public institutions overcome the inherent friction of bureaucratic and regulatory hurdles (Al Nuaimi & Singh, 2022)

However, digital strategy was not found to moderate the relationship between organizational agility and digital transformation success. This finding suggests that organizational agility capabilities are sufficiently robust to directly drive digital transformation success without the need for a formal digital strategy. In the context of this study, agile organizations can adapt and innovate even when their digital strategy is not fully developed or comprehensively documented. This finding contrasts with the results of Alakaş (2024) but aligns with the views of Al Nuaimi and Singh (2022), who argued that, in certain public sector contexts, internal adaptive capabilities can independently drive organizational change.

From a cultural perspective, the research findings indicate that digital culture acts as a moderating variable in the relationship between digital transformational leadership and digital transformation success. A digital culture that supports innovation, collaboration, openness to risk, and continuous technological learning enables employees to more easily internalize the leader's vision and direction. In an organizational environment with a strong digital culture, digital transformational leadership is not only perceived as a formal policy but also translated into daily work behaviors. This finding aligns with the views of Khin and Ho (2019) and Alakaş (2024), who emphasize that digital culture is a critical prerequisite for the success of technology-based change.

In contrast, digital culture was not found to moderate the relationship between organizational agility and digital transformation success. This finding suggests that organizational flexibility, responsiveness, and adaptability are sufficient to drive digital transformation, regardless of the maturity level of the organization's digital culture. It indicates that, within the organizational context studied, structural factors and core capabilities play a more dominant role than cultural factors in translating agility into transformation success. This result aligns with the concept of dynamic capabilities proposed by Teece, Peteraf, and Leih (2016), which emphasizes an organization's ability to respond to change and reorganize resources as the primary foundation of adaptive advantage.

Overall, the results of this study confirm that successful digital transformation results from a complex interaction among leadership, organizational capabilities, strategy, and culture. Digital transformational leadership and organizational agility are identified as the primary direct factors, while digital strategy and digital culture act as contextual factors that can either reinforce or diminish outcomes depending on the relationships examined. These findings make a significant contribution to the development of digital transformation literature in the public sector and provide a foundation for formulating more contextualized and applicable managerial and policy implications.

## **5. Conclusion**

### **5.1 Conclusion**

The research findings indicate that the conditions of Digital Transformational Leadership, Organizational Agility, Digital Strategy, Digital Culture, and Digital Transformation Success within the Regional Office of the Directorate General of Treasury of Aceh Province are in the good category. This reflects the organization's relatively strong leadership foundation, adaptive capabilities, strategic direction, and digital values that support the ongoing digital transformation process. These conditions provide essential resources for government agencies to meet the increasingly complex and dynamic demands of digitalizing public services.

Empirically, this study demonstrates that digital transformational leadership significantly influences the success of digital transformation. The findings indicate that a visionary leader who is adaptable to technology and capable of inspiring and mobilizing employees is a key factor in driving digital-based organizational change. Digital transformational leadership can provide clear direction, foster collective commitment, and reduce resistance to change, thereby enabling digital transformation to be more effective and sustainable.

In addition to leadership, organizational agility has been shown to positively impact the success of digital transformation. Organizations that can respond swiftly to change, flexibly adjust work processes, and make adaptive decisions are better equipped to implement digital innovations. These findings confirm that organizational agility is a critical internal capability for navigating technological dynamics and meeting the demands of an ever-evolving work environment, especially in the public sector.

This study also found that digital strategy acts as a moderating variable, enhancing the influence of digital transformational leadership on the success of digital transformation. This means that the effectiveness of digital transformational leadership is optimized when supported by a well-planned, integrated digital strategy aligned with organizational goals. Digital strategy serves as a guideline that translates leadership vision into concrete policies, programs, and technology implementations across various work units.

However, digital strategy was not found to moderate the effect of organizational agility on digital transformation success. This finding suggests that an organization's ability to be agile and adaptive is sufficiently strong to drive digital transformation success without relying on digital strategy as a primary driver. In other words, organizational agility can directly contribute to digital transformation even if a digital strategy is not yet fully established as the main driver.

From a cultural perspective, the research findings reveal that digital culture moderates the influence of digital transformational leadership on the success of digital transformation. An organizational culture that embraces innovation, collaboration, technological learning, and tolerance for risk can enhance the positive impact of digital transformational leadership. In a work environment with a strong digital culture, the leader's direction and vision are more readily accepted, internalized, and reflected in work behaviors that support digital transformation.

In contrast, digital culture did not serve as a moderating variable in the relationship between organizational agility and digital transformation success. This finding suggests that organizational agility in responding to change is a dominant factor driving transformation success, regardless of the maturity level of digital culture. Therefore, although digital culture remains important for long-term organizational development, this study did not find evidence that it strengthens the relationship between organizational agility and digital transformation success.

### **5.2 Suggestions**

1. The Digital Transformation Success variable had the lowest average score of 3.96. This indicates an opportunity for organizations to enhance system integration across work units, particularly regarding

cross-departmental information exchange. Organizations should strengthen the use of integrated digital platforms to ensure all units are connected and capable of sharing data automatically and in real time. Achieving this requires system updates, standardization of digital workflows, and internal training on the use of integrated systems.

2. The Digital Transformational Leadership variable showed the lowest average score of 3.95. This finding suggests that leaders should enhance their personal support and direct guidance to employees during the digital technology adoption process. Leaders can strengthen coaching and mentoring strategies and provide regular discussion forums to ensure employees feel supported and guided in using new technologies. This approach is expected to boost employee confidence and accelerate digital adaptation in the workplace.
3. The Organizational Agility variable had the lowest average score of 3.91. This suggests that organizations should adopt a more proactive approach to identifying and capitalizing on digital opportunities. They need to enhance monitoring mechanisms for technological developments, encourage the exploration of new ideas, and establish dedicated units or teams responsible for identifying relevant digital opportunities. These measures are expected to improve organizational agility in responding to change and strategically leveraging innovation.
4. The Digital Strategy variable had the lowest average score of 3.75 among all variables. This finding suggests that organizations should further integrate digital considerations into every strategic decision-making process. To achieve this, organizations need to enhance data-driven digital analysis, involve technology units in policy development, and ensure that digital factors are central to long-term planning. These measures will help ensure that strategic decisions align more closely with the organization's digital transformation trajectory.
5. The Digital Culture variable had the lowest average score of 3.92. This finding can guide organizations in expanding and equalizing opportunities for employees to engage in digital innovation activities. Organizations can implement ideation programs, internal hackathons, reward systems for innovation, and open contribution opportunities to employees at all levels. These initiatives are expected to foster a stronger culture of innovation and ensure that all employees feel empowered throughout the digital transformation process.

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