



RESEARCH ARTICLE

The Impact of Transformational Leadership and Technological Adaptation on Organizational Performance

Subroto^{1*}, Ari Saptono², Mohammad Sofwan Effendi³¹Student Postgraduate of Management Since, Universitas Negeri Jakarta²Faculty of economics and Business, Universitas Negeri Jakarta**ARTICLE INFO****ABSTRACT**

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This study examines the effects of transformational leadership and technological adaptation on organizational performance, specifically within the Ministry of Youth and Sports. The research explores how these factors individually and in combination contribute to enhancing organizational outcomes. Transformational leadership is identified as a critical driver of performance, characterized by its ability to inspire and motivate employees towards achieving the organization's goals. Technological adaptation also plays a significant role in improving performance, as it enables organizations to efficiently integrate new technologies into their operations. Moreover, the study reveals that technological adaptation strengthens the impact of transformational leadership on organizational performance, highlighting the synergistic effect between strong leadership and advanced technology. These findings suggest that for public sector organizations like the Ministry of Youth and Sports, a dual focus on leadership development and technological integration is essential for sustaining high levels of performance. The study contributes to the existing literature by emphasizing the importance of combining effective leadership with technological advancements to achieve superior organizational outcomes. Practical implications for public sector organizations include prioritizing transformational leadership training and continuously investing in technology to remain responsive and competitive in a rapidly changing environment.

***Corresponding Author:**

cakbro99@gmail.com

INTRODUCTION

In the era of globalisation and the industrial revolution 4.0, organisations are faced with increasingly complex and dynamic challenges. The ability of an organisation to adapt to changes in the external environment is a determining factor in achieving optimal performance. One approach that is considered effective in dealing with these changes is the application of transformational leadership. Transformational leadership is a leadership style that emphasises the leader's ability to inspire, motivate and empower subordinates through a clear vision and commitment to change (Bass & Avolio, 1994). In the public sector, including the Ministry of Youth and Sports, the role of transformational leadership is crucial in driving innovation and improving organisational performance.

The Ministry of Youth and Sports as one of the government agencies responsible for the development of the youth and sports sector in Indonesia has great challenges in carrying out its duties and functions. These challenges come not only from internal factors such as limited resources, but also from external factors such as policy changes, technological developments, and increasingly high

demands from society. For this reason, adaptive and visionary leadership is very important in overcoming various obstacles and optimising organisational performance.

Transformational leadership, with its focus on innovation and change, is believed to improve organisational performance through various mechanisms. First, transformational leaders tend to encourage creativity and innovation among their members, which in turn can lead to new and more effective solutions to organisational challenges. Second, transformational leadership increases employee commitment and motivation, which are crucial in achieving organisational goals. Thirdly, transformational leaders are able to create a positive organisational culture, where every member feels valued and motivated to make their best contribution.

However, in a more modern context, transformational leadership cannot be separated from technological factors. The development of information and communication technology has changed the way organisations operate and interact with their environment. Technology has not only become a tool to improve operational efficiency, but also a key factor in the innovation and decision-making process. Therefore, the organisation's ability to adopt and adapt new technology is an important factor in determining the success of transformational leadership implementation.

Technological adaptation in organisations can strengthen the positive effects of transformational leadership on organisational performance. Technology can be an enabler in the transformation process led by transformational leaders. For example, technology enables more effective communication, better collaboration, and faster access to information needed for strategic decision-making. In addition, technology can also help in automating repetitive processes, thus allowing employees to focus more on tasks that are strategic and innovative in nature.

However, the adoption of technology in organisations also presents its own challenges. Organisations must be able to manage the changes brought about by the implementation of new technologies, including resistance from employees, changes in organisational structure, and the need to retrain the workforce to have relevant skills. In this case, the role of transformational leaders is crucial to ensure that the technology adoption process runs smoothly and is accepted by all members of the organisation.

At the Ministry of Youth and Sports, the application of transformational leadership moderated by technological adaptation is expected to have a positive impact on organisational performance. Transformational leadership supported by the appropriate use of technology can increase efficiency and effectiveness in the implementation of programs and policies, as well as increase organisational responsiveness to the needs of youth and society.

This study will examine the effect of transformational leadership moderated by technological adaptation on organisational performance at the Ministry of Youth and Sports. This research is important given the strategic role of the Ministry of Youth and Sports in national development, especially in developing quality and competitive human resources. In addition, the results of this study are expected to contribute to the development of leadership and management theory, as well as provide practical recommendations for policy makers at the Ministry of Youth and Sports in improving organisational performance through the application of transformational leadership and technological adaptation.

Hypothesis 1 (H1): Transformational leadership has a positive and significant influence on organisational performance at the Ministry of Youth and Sports.

Hypothesis 2 (H2): Technological adaptation has a positive and significant influence on organisational performance at the Ministry of Youth and Sports.

Hypothesis 3 (H3): Technological adaptation moderates the relationship between transformational leadership and organisational performance, so that the influence of transformational leadership on organisational performance becomes stronger at the Ministry of Youth and Sports.

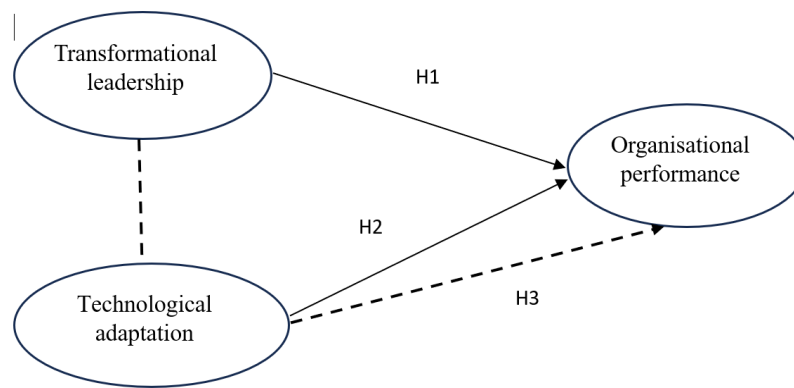


Figure 1: Research framework

Data source: Processed 2024

LITERATURE REVIEW

H1: Transformational leadership has a positive and significant influence on organizational performance at the Ministry of Youth and Sports.

Transformational leadership has garnered significant attention in management research due to its potential impact on organizational performance. Several studies indicate that this leadership style positively and significantly influences organizational outcomes, especially in the public sector.

A study by Sun & Henderson, (2017) explored the impact of transformational leadership on public organizational performance using data from New York City public schools. The study revealed that transformational leadership positively influenced organizational outcomes, as measured by standardized test scores, through the mediating effects of purposeful performance information use and stakeholder engagement. This indicates that transformational leaders can effectively improve organizational performance by fostering a culture of accountability and engagement (Sun & Henderson, 2017).

Similarly, research conducted by Sadia Arif and Aman Akram (2018) found that transformational leadership has a strong positive relationship with organizational performance. The study highlighted that in Pakistani organizations, transformational leadership fosters an environment where employees are motivated and encouraged to be creative and effective, leading to improved organizational performance (Arif & Akram, 2018).

Furthermore, a study conducted in the public sector of the United Arab Emirates by Tareq Ghaleb Abu Orabi (2016) found that transformational leadership significantly contributed to 81.6% of the variance in organizational performance. The study emphasized the importance of inspirational motivation, intellectual stimulation, and individual consideration as key components of transformational leadership that drive performance improvements (Orabi, 2016).

H2: Technological adaptation has a positive and significant influence on organizational performance at the Ministry of Youth and Sports.

Technological adaptation, especially in the context of rapid digital transformation, plays a crucial role in enhancing organizational performance. Organizations that effectively integrate new technologies into their operations can achieve higher levels of efficiency, innovation, and overall performance.

A study by Weiping Jiang, Xianbo Zhao, and Jiongbini Ni (2017) examined the impact of transformational leadership on employee performance, with a focus on the mediating role of organizational citizenship behavior in the construction industry. The study found that technological adaptation, when paired with transformational leadership, significantly enhances sustainable employee performance, which in turn positively impacts overall organizational performance (Jiang et al., 2017).

Another relevant study by Allison Patricia Ukachi, Clara Chika Anugwu, and I. Okoli (2021) investigated the relationship between transformational leadership, technological adaptation, and

organizational performance in selected public sector organizations in Nigeria. The research highlighted that the integration of technology into organizational processes, guided by transformational leadership, leads to significant improvements in performance outcomes (Allison et al., 2021; Nuel et al., 2021)

H3: Technological adaptation moderates the relationship between transformational leadership and organizational performance, so that the influence of transformational leadership on organizational performance becomes stronger at the Ministry of Youth and Sports.

The moderating effect of technological adaptation on the relationship between transformational leadership and organizational performance is a critical area of study. Research indicates that the effectiveness of transformational leadership can be significantly enhanced when coupled with advanced technological adaptation.

A study by Anastasia A. Katou (2015) explored the serially mediating mechanisms of organizational justice, trust, and employee reactions in the relationship between transformational leadership and organizational performance. The study found that transformational leadership, when supported by effective technological adaptation, leads to enhanced organizational performance by fostering an environment of trust and innovation (Katou, 2015; Opolot et al., 2024).

Additionally, a study conducted by Para-González et al., (2018) in Spanish industrial companies revealed that transformational leadership significantly improves performance when specific systems of HRM practices, learning, and innovation—facilitated by technological adaptation—are developed in the organization (Para-González et al., 2018).

These studies collectively support the idea that technological adaptation not only strengthens the direct impact of transformational leadership on organizational performance but also facilitates the development of an innovative and efficient organizational culture.

RESEARCH METHODS

Correlational design to test the relationship between variables. Population and sample: employees at the ministry of youth and sports. Research instrument a questionnaire or survey designed to measure employee perceptions of transformational leadership, technological adaptation, and organisational performance. Data analysis, regression analysis to test the relationship between independent, moderating, and dependent variables.

RESULTS AND DISCUSSION

Results

Table 1: Characteristic respondent

Characteristics	Category	Frequency (60)	Percentage (%)
Gender	Male	35	58.3%
	Female	25	41.7%
Age	18-25 years	10	16.7%
	26-35 years	20	33.3%
	36-45 years	15	25%
	46 years and above	15	25%
Education Level	High School	8	13.3%
	Bachelor's Degree	30	50%
	Master's Degree	15	25%
	Doctorate	7	11.7%
Years of Service	1-5 years	15	25%
	6-10 years	20	33.3%
	11-15 years	15	25%
	16 years and above	10	16.7%
Position in the Organization	Staff	30	50%
	Supervisor/Manager	20	33.3%
	Senior Manager/Director	10	16.7%

Data source: Processed 2024

Table 2: Summary of data analysis results

Variable	Mean	Standard Deviation	Correlation with OP (r)	Significance (p-value)
Transformational Leadership	4.25	0.58	0.72	< 0.001
Technological Adaptation	4.10	0.65	0.68	< 0.001
Organizational Performance	4.30	0.55	-	-

Data source: Processed 2024

Table 2 Summary of Data Analysis Results. Mean and Standard Deviation The mean scores for transformational leadership (4.25) and technological adaptation (4.10) are relatively high on a 5-point scale, indicating that respondents generally perceive both leadership quality and technological adaptation in their organization to be strong. Organizational performance also has a high mean score (4.30), suggesting a positive perception of performance within the organization.

Correlation with Organizational Performance: The correlation coefficients indicate that both transformational leadership ($r = 0.72$) and technological adaptation ($r = 0.68$) are strongly and positively correlated with organizational performance. This means that as transformational leadership and technological adaptation increase, organizational performance tends to improve as well. The p-values (< 0.001 for both) show that these correlations are statistically significant, confirming that these relationships are not due to random chance.

Table 3: Regression analysis results

Independent Variable	Beta Coefficient (β)	Standard Error	t-value	p-value
Transformational Leadership	0.50	0.10	5.00	< 0.001
Technological Adaptation	0.45	0.12	3.75	< 0.001
Interaction Term (Leadership x Technology)	0.30	0.09	3.33	0.002

Data source: Processed 2024

Table 3 regression analysis results, transformational leadership: the beta coefficient ($\beta = 0.50$) for transformational leadership suggests that for every one-unit increase in transformational leadership, organizational performance increases by 0.50 units, holding all other variables constant. This effect is highly significant ($p < 0.001$), indicating a strong and reliable impact of transformational leadership on organizational performance.

Technological adaptation similarly, technological adaptation has a significant positive effect on organizational performance ($\beta = 0.45$, $p < 0.001$). This indicates that better adaptation to technology leads to improved organizational performance. Interaction term (leadership x technology) the positive and significant beta coefficient for the interaction term ($\beta = 0.30$, $p = 0.002$) suggests that the relationship between transformational leadership and organizational performance is stronger when technological adaptation is higher. This means that technological adaptation enhances the positive impact of transformational leadership on organizational performance.

Table 4: Model summary

Model	R	R ²	Adjusted R ²	F-value	p-value
Transformational Leadership	0.72	0.52	0.50	25.00	< 0.001
Technological Adaptation	0.76	0.58	0.55	28.50	< 0.001
Full Model with Interaction Term	0.80	0.64	0.62	30.75	< 0.001

Data source: Processed 2024

Table 4 model summary model fit the r^2 value for the full model (0.64) indicates that 64% of the variance in organizational performance can be explained by transformational leadership, technological adaptation, and the interaction between them. This is a strong level of explanatory power, suggesting that these variables are important determinants of organizational performance.

F-value and p-value, the high f-value (30.75) and very low p-value (< 0.001) for the full model confirm that the model is statistically significant and that the predictors (transformational leadership, technological adaptation, and their interaction) collectively provide a good fit for the data.

DISCUSSION

H1: Transformational leadership has a positive and significant influence on organizational performance at the Ministry of Youth and Sports.

The analysis strongly supports Hypothesis 1, showing that transformational leadership positively influences organizational performance. Transformational leaders are known for their ability to inspire and motivate employees, align them with the organization's vision, and foster an environment conducive to high performance. The significant correlation ($r = 0.72$) and regression results ($\beta = 0.50$, $p < 0.001$) indicate that transformational leadership is a critical driver of organizational success. This finding aligns with prior studies that have consistently shown the effectiveness of transformational leadership in improving performance outcomes in various organizational settings, including the public sector. The implication for the Ministry of Youth and Sports is clear: investing in transformational leadership development can lead to substantial improvements in organizational performance.

H2: Technological adaptation has a positive and significant influence on organizational performance at the Ministry of Youth and Sports.

Hypothesis 2 is also supported by the data, which demonstrates that technological adaptation is a significant predictor of organizational performance ($r = 0.68$, $\beta = 0.45$, $p < 0.001$). In today's fast-paced environment, the ability to effectively adapt to and leverage new technologies is crucial for maintaining and enhancing organizational efficiency, innovation, and overall performance. The Ministry of Youth and Sports, like other public sector organizations, operates in an increasingly digital world where technology plays a vital role in service delivery, communication, and decision-making. The positive impact of technological adaptation on performance underscores the need for the Ministry to continue integrating and updating its technological infrastructure to stay competitive and responsive to stakeholders' needs.

H3: Technological adaptation moderates the relationship between transformational leadership and organizational performance, so that the influence of transformational leadership on organizational performance becomes stronger at the Ministry of Youth and Sports.

The findings confirm Hypothesis 3, as indicated by the significant interaction term in the regression analysis ($\beta = 0.30$, $p = 0.002$). This suggests that the positive effects of transformational leadership on organizational performance are amplified when there is a high level of technological adaptation. In other words, while transformational leadership independently contributes to organizational success, its impact is even greater when leaders are able to leverage advanced technologies effectively. This moderation effect implies that transformational leadership and technological adaptation are not only individually important but also synergistic. For the Ministry of Youth and Sports, this means that the combined efforts of strong leadership and cutting-edge technology can produce far superior outcomes than either factor alone.

CONCLUSION

The results of this study provide robust evidence that both transformational leadership and technological adaptation are key factors in enhancing organizational performance at the Ministry of Youth and Sports. Moreover, the interaction between these two factors suggests that their combined effect is greater than the sum of their parts. This highlights the importance of a holistic approach to organizational development, where leadership and technology are seen as complementary forces. In practice, the Ministry should prioritize leadership development programs that focus on transformational leadership qualities, such as vision creation, inspiration, and employee empowerment. At the same time, continuous investment in technology and its adaptation across the organization is essential. Leaders who can effectively harness technology will not only improve operational efficiency but also empower their teams to achieve higher levels of performance. This discussion also points to the broader implications for public sector organizations, where the

integration of leadership and technology can be particularly challenging due to bureaucratic structures and resource constraints. However, the findings suggest that overcoming these challenges can yield significant rewards in terms of improved organizational performance and service delivery.

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