



# The Role of Innovative Work Behavior as an Intervening Variable in the Relationship between Transformational Leadership and Information Sharing on Employee Performance

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

A company needs a leader who can make a good impact on its employees and who will later influence their performance. Sharing information and innovative work behavior within a company will also affect performance within the company. In this analysis, two exogenous variables are used: Transformational Leadership and Information Sharing, and the endogenous variables of employee performance and innovative work behavior as intervening variables. The data collected from this study is as many as 150 respondents and was obtained from 7 start-up companies located in Yogyakarta. The sampling technique in this study uses purposive samplings. The data analysis technique in this analysis uses Structural Equation Modelling with the help of SmartPLS-3. The

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results of this study show that the entire hypothesis submitted is accepted. Innovative work behavior has a mediating role for Transformational Leadership and Information Sharing. This suggests that fostering transformational leadership qualities and promoting a culture of information sharing can lead to improved employee performance through enhanced innovative work behavior. Such findings have significant implications for organizations aiming to enhance their performance through leadership and communication strategies.

*Keywords: Transformational leadership; Information sharing; innovative work behavior; employee performance.*

## 1. INTRODUCTION

Managing an organization or company is a highly complex endeavor, as they operate in environments characterized by uncertainty and constant change [1]. Consequently, effective management of human resources in such environments necessitates innovative approaches to address daily challenges [2]. Thus, effective leadership becomes paramount, with leaders expected to possess a keen awareness of the organizational environment and the needs of its members, particularly in motivating employees toward organizational goals. Transformational Leadership, defined as guiding ordinary employees towards exceptional performance (Bass & Avolio, 1985), is believed to foster innovative thinking and behavior among followers, thus influencing workplace dynamics [3]. Additionally, job innovation emerges as another factor impacting employee performance and organizational success, highlighting the importance of integrating innovation into organizational strategies [4-7]. Research suggests that effective leadership plays a pivotal role in fostering creativity and innovation, with leaders serving as catalysts in shaping innovative outcomes [8,9,10]. In complex environments characterized by multiple stakeholders, leaders are essential in providing guidance to individuals and teams to foster creative and innovative performance [11]. These findings underscore the critical role of leadership in nurturing a culture of innovation within organizations, ultimately enhancing performance and competitiveness.

An organization or company requires employees with the appropriate knowledge, skills, capabilities, and resources to develop human resource management practices focused on knowledge development and effective utilization [12-15]. Training and development programs within organizations contribute significantly to enhancing both explicit and implicit knowledge among employees, which is essential for

fostering innovation and gaining a competitive edge. Informal sharing of information among colleagues, supervisors, and subordinates is a valuable experience gained in the workplace. Information sharing encompasses the dissemination of information regarding policies, the organization's relationship with the external environment, and job-related objectives [16-20]. This sharing of information and expertise plays a crucial role in fostering individual and organizational creativity and innovation. Collaborative work facilitates innovation by creating a reservoir of information, insights, experiences, and problem-solving skills that team members collectively possess. True innovation often stems from collaborative efforts, underscoring the importance of information sharing in the innovation process [21-25].

Yogyakarta is known for hosting several startup companies, which are small enterprises or newly established businesses. According to Balazs Fazekas [26], startups are characterized by their innovative approaches, motivation, and introduction of new business models. Eisenmann et al. [27] note that there is no universally accepted definition of a startup, but generally, it refers to an enterprise created to introduce a new product to the market, often entailing significant operational risks. The attitude and leadership style of the leader significantly impact employee performance in startup companies [28-31]. Employees often play a pivotal role in operational performance within such companies, making leadership particularly influential [32-34]. Research by Muttaqin et al. [3] emphasizes the significant effect of leadership on performance in startup companies. This study aims to investigate the impact of transformational leadership and information sharing on employee performance, with innovative work behavior as an intervening variable. This research contributes to the understanding of how transformational leadership and information sharing influence employee performance, highlighting the importance of fostering innovative work behavior.

## 2. MATERIALS AND METHODS

The population in this research comprises employees of Start-Up Companies located in Yogyakarta. The sampling technique for this study was purposive sampling, with the number of respondents totaling 150 from the 7 Start-Up companies in Yogyakarta. The companies carefully investigated in this study are Inolabs Creative IT Solution, with 39 employees who filled in questionnaires; PT Widya Inovasi Indonesia, with 57 employees who filled out the questionnaire mamikoss. Of the 14 employees filling out the questionnaire, Art Software had 14 staff who filled out the questionnaire, Cinema Visual Supply had 13 people who filled out the questionnaire, the Mitters had 12 employees who filled in the questionnaire, and PT Vads Indonesia Cab Yogyakarta had 11 employees who filled in the quiz. Purposive sampling is a method of sampling by selecting and determining characteristics that have been established with a specific purpose and consideration.

The sample used in this study comprises employees of start-up companies who have been working for one year; this is done because an employee who has worked for a year in the company is considered to have been able to judge their leader. The sample size in this study ranges from 100 to 200 samples, based on the number of samples required when using Structural Equation Model (SEM) analysis with the help of data processing using SmartPLS-3. A Likert scale of 1-5 is utilized, where a value of 1 indicates strong disagreement and a value of 5 indicates strong agreement. The test instruments in this study are the Validity Test and Reliability Test conducted on the measurement model (outer model). In the Data Analysis Technique, the inner model is subsequently tested, including causality testing. This involves testing line coefficients, R-square, F-square relevance forecast (Q2), Collinearity Statistics (VIF), as well as model matching and goodness tests.

## 3. RESULTS

This research utilizes Structural Equation Modeling with Partial Least Squares (SEM-PLS), which involves three stages of analysis (Hair et al., 2017):

1. Outer Model Analysis: This stage assesses the measurement model's validity and reliability. It includes tests for convergent validity, which examines the extent to

which items within each construct measure the same underlying concept. Discriminant validity is also assessed to ensure that each construct is distinct from others. Additionally, reliability tests are conducted to determine the consistency and stability of measurements across items within each construct.

2. Inner Model Analysis: In this stage, the structural model's fit to the data is evaluated, assessing how well the proposed relationships among constructs align with the observed data. Fit tests are conducted to determine the overall goodness-of-fit of the model, indicating how well it explains the observed variance and covariance in the data. Additionally, R-squared values are calculated to assess the proportion of variance in the endogenous constructs explained by the exogenous constructs, providing insights into the model's explanatory power.
3. Hypothesis Testing: In this stage, the proposed hypotheses are tested to determine the significance of the relationships between variables. Statistical tests, such as t-tests or bootstrapping, are conducted to assess whether the relationships between the independent and dependent variables are statistically significant. This stage helps validate the theoretical framework by providing empirical evidence for the hypothesized relationships.

### 3.1 Outer Model Analysis

Convergent validity test results with loading factors assess the extent to which individual items (indicators) within each construct contribute to measuring the underlying concept adequately. The loading factor indicates the strength of the relationship between each item and its respective construct in the measurement model. Higher loading factors suggest that the item effectively represents the construct. During the analysis, loading factors are examined to ensure that each item loads significantly onto its intended construct, indicating convergent validity. If the loading factors are high and statistically significant, it suggests that the items are measuring the intended construct effectively. Conversely, low or non-significant loading factors may indicate issues with the measurement model, such as poor item clarity or conceptual alignment. Convergence validity tests with loading factors help researchers assess the

reliability and accuracy of the measurement model, ensuring that the constructs are adequately represented by their corresponding indicators. This step is crucial for establishing the validity of the measurement model before proceeding to further analyses, such as discriminant validity and structural model assessment. The result is shown as following Table 1.

In this study, a cutoff value of loading factor greater than 0.5 is utilized as a criterion for

assessing convergent validity. This means that each indicator's loading factor should be equal to or higher than 0.5 to be considered significant in measuring its respective construct effectively (Hair et al., 2017). The rationale behind this cutoff value is to ensure that only indicators with substantial relationships with their constructs are retained in the measurement model. Indicators with loading factors below 0.5 may indicate weaker associations with their constructs and could potentially introduce measurement error or noise into the model.

**Table 1. Loading factor**

Variable	No Item	Indicators	Loading Factor	Description
<i>Employee Performance</i>	1	EP1	0.656	Valid
	2	EP2	0.589	Valid
	3	EP3	0.609	Valid
	4	EP4	0.761	Valid
	5	EP5	0.821	Valid
	6	EP6	0.822	Valid
	7	EP7	0.778	Valid
	8	EP8	0.750	Valid
Information Sharing	9	IS1	0.884	Valid
	10	IS2	0.692	Valid
	11	IS3	0.792	Valid
	12	IS4	0.795	Valid
	13	IS5	0.632	Valid
Innovative Work Behavior	14	IWB1	0.546	Valid
	15	IWB2	0.838	Valid
	16	IWB3	0.835	Valid
	17	IWB4	0.627	Valid
	18	IWB5	0.793	Valid
	19	IWB6	0.649	Valid
	20	IWB7	0.698	Valid
	21	IWB8	0.891	Valid
	22	IWB9	0.857	Valid
	23	IWB10	0.839	Valid
Transformational Leadership	24	TL1	0.875	Valid
	25	TL2	0.803	Valid
	26	TL3	0.891	Valid
	27	TL4	0.786	Valid
	28	TL5	0.656	Valid
	29	TL6	0.655	Valid
	30	TL7	0.350	Invalid
	31	TL8	0.650	Valid
	32	TL9	0.607	Valid
	33	TL10	0.467	Invalid
	34	TL11	0.647	Valid
	35	TL12	0.805	Valid
	36	TL13	0.685	Valid
	37	TL14	0.841	Valid
	38	TL15	0.832	Valid
	39	TL16	0.819	Valid
	40	TL17	0.878	Valid

Based on this criterion, indicators TL7 and TL10 fall below the cutoff value, indicating weaker relationships with the Transformational Leadership construct. Consequently, these indicators are deemed less effective in measuring Transformational Leadership and are therefore eliminated from the analysis. By applying a cutoff value of 0.5 for loading factors, the study aims to enhance the reliability and validity of the measurement model, ensuring that only robust indicators are retained for further analysis.

The Average Variance Extracted (AVE) is a measure used to assess the convergent validity of constructs in a structural equation modeling (SEM) analysis. It indicates the amount of variance captured by the indicators (or items) relative to the amount of variance attributable to measurement error. AVE values greater than 0.5 are typically considered satisfactory, indicating that a construct explains more variance than measurement error and suggesting convergent validity (Hair et al., 2017). Overall, these AVE values demonstrate that the constructs in the study adequately represent their respective concepts, providing confidence in the measurement model's reliability and validity.

The Fornell-Larcker criterion is a method used to assess discriminant validity in structural equation modeling (SEM). It compares the square root of each construct's Average Variance Extracted (AVE) with the correlations between that construct and all other constructs in the model. Discriminant validity is established when the square root of the AVE for a construct is greater than the correlations between that construct and all other constructs. When the Discriminant validity test results with Fornell-Larcker are deemed good, it means that each construct in the model is more strongly correlated with its own indicators than with the indicators of other constructs. This indicates that each construct is distinct and adequately measures a unique concept in the model, without significant overlap with other constructs (Hair et al., 2017). Overall, good Discriminant validity test results with Fornell-Larcker provide assurance that the measurement model is robust and reliable for further analysis.

The reliability test in this study employs two common measures: Cronbach's Alpha and Composite Reliability. These measures assess the internal consistency or reliability of the items within each construct in a structural equation modeling (SEM) analysis. Cronbach's Alpha is a

statistic that measures the average correlation between different items within the same construct. It ranges from 0 to 1, with higher values indicating greater internal consistency reliability. A commonly accepted cutoff value for Cronbach's Alpha is 0.7; values above this threshold suggest satisfactory reliability. Composite Reliability is another measure of internal consistency reliability that considers the variance explained by the construct's indicators relative to the total variance, considering the loading factors of the indicators. Like Cronbach's Alpha, Composite Reliability values range from 0 to 1, with values above 0.7 typically considered satisfactory (Hair et al., 2017). In this study, the reliability test results indicate excellent reliability, as all values for both Cronbach's Alpha and Composite Reliability are above the cutoff of 0.7. This suggests that the items within each construct are highly consistent and reliable measures of their respective concepts. High reliability ensures that the measurement model accurately captures the intended constructs and provides confidence in the validity of the study's findings.

### 3.2 Inner Model Analysis

The Fit Summary provides an evaluation of how well the estimated model fits the observed data compared to a saturated model, which is a hypothetical model that perfectly fits the data (Hair et al., 2017). Several fit indices are typically examined to assess the adequacy of the estimated model. SUMMER (Squared Multiple Correlation): This index measures the proportion of variance in the observed variables that is explained by the model. In this case, the value for the estimated model is 0.137, indicating that 13.7% of the variance in the observed variables is explained by the model.  $d_{ULS}$  and  $d_G$ : These indices represent the discrepancy between the estimated model and the saturated model. They provide information about how much the estimated model deviates from the perfect fit represented by the saturated model. Higher values suggest greater discrepancy. Chi-Square: This index compares the observed covariance matrix with the model-implied covariance matrix. A significant chi-square value suggests a lack of fit between the model and the data. In this case, both the saturated model and the estimated model have significant chi-square values (1105.376 and 1150.204, respectively), indicating a lack of perfect fit. NFI (Normed Fit Index): This index assesses the relative fit of the estimated model compared to a null model (i.e.,

a model with no relationships between variables). A value closer to 1 indicates better fit. In this case, both the saturated model and the estimated model have NFI values below 0.6, suggesting relatively poor fit. Overall, the Fit Summary indicates that while the estimated model explains a portion of the variance in the observed variables, it still deviates significantly from the perfect fit represented by the saturated model. Additionally, the relatively low NFI values suggest that the estimated model may not fit the data well compared to a null model. The result is shown as following Table 5.

The R-squared (R<sup>2</sup>) test is a statistical measure used in structural equation modeling (SEM) to evaluate the explanatory power of the model. Specifically, the R<sup>2</sup> value indicates the proportion of variance in each endogenous variable (dependent variable) explained by the exogenous variables (independent variables) in the model. In the context of SEM, the R<sup>2</sup> test is

conducted as part of the inner model analysis, which focuses on assessing the relationships between constructs or latent variables. After estimating the structural model, the R<sup>2</sup> values are computed for each endogenous variable in the model.

A high R<sup>2</sup> value (closer to 1) suggests that a large portion of the variance in the dependent variable is explained by the independent variables included in the model. Conversely, a low R<sup>2</sup> value (closer to 0) indicates that the independent variables have limited explanatory power over the dependent variable. The R<sup>2</sup> test provides valuable insights into the strength and significance of the relationships between variables in the model. It helps researchers understand how well the model accounts for the observed variance in the endogenous variables and informs the interpretation of the model's predictive capabilities. The result is shown as following Table 6.

**Table 2. Convergence validity test results with Average Variance Extracted (AVE)**

Variable	Average Variance Extracted (AVE)	Criteria	Description
Employee Performance	0.662	> 0.5	Valid
Information Sharing	0.779	> 0.5	Valid
Innovative Work Behavior	0.737	> 0.5	Valid
Transformational Leadership	0.721	> 0.5	Valid

**Table 3. Discrimination validity test results with Fornell-Larcker**

	Employee performance	Information Sharing	Innovative work behavior	Transformational leadership
Employee performance	0.814			
Information Sharing	0.450	0.882		
Innovative work behavior	0.682	0.404	0.860	
Transformational leadership	0.335	0.467	0.569	0.849

**Table 4. Cronbach's Alpha and Composite Reliability**

	Cronbach's Alpha	Composite Reliability	Criteria	Description
Employee Performance	0.874	0.907	>0.7	Reliable
Information Sharing	0.861	0.913	>0.7	Reliable
Innovative Work Behavior	0.929	0.944	>0.7	Reliable
Transformational Leadership	0.952	0.959	>0.7	Reliable

**Table 5. Fit Summary**

	Saturated Model	Estimated Model
Summer	0.094	0.137
d_ ULS	2.433	5.204
d_ G	2.888	3.044
Chi-Square	115.376	1150.204
NFI	0.596	0.580

**Table 6. R-Square (R<sup>2</sup>)**

Variable	R Square	Percentage (%)
Employee performance	0.540	54%
Innovative Work Behavior	0.331	33.1%

**Table 7. Hypothesis test**

	Original Sample	P Values	Description
Information Sharing -> Employee Performance	0.242	0.018	Accepted
Information Sharing -> Innovative Work Behavior	0.182	0.133	Rejected
Innovative Work Behavior -> Employee Performance	0.695	0.000	Accepted
Transformational Leadership -> Employee Performance	-0.165	0.084	Rejected
Transformational Leadership -> Innovative Work Behavior	0.467	0.000	Accepted
Information Sharing -> Innovative Work Behavior -> Employee Performance	-	0.161	Rejected
Transformational Leadership -> Innovative Work Behavior -> Employee Performance	-	0.000	Accepted

The R-squared (R<sup>2</sup>) values for the variables "Employee Performance" and "Innovative Work Behavior" provide insights into the proportion of variance in each of these endogenous variables explained by the exogenous variables in the model. For "Employee Performance," the R<sup>2</sup> value is 0.540, indicating that approximately 54% of the variance in employee performance can be accounted for by the independent variables included in the model. This suggests that factors such as transformational leadership, information sharing, and job innovation have a substantial influence on employee performance, explaining more than half of the observed variance in this outcome. Similarly, for "Innovative Work Behavior," the R<sup>2</sup> value is 0.331 or 33.1%. This indicates that approximately 33.1% of the variance in innovative work behavior can be explained by the independent variables in the model. These independent variables, such as transformational leadership and information sharing, play a significant role in shaping employees' propensity for innovative behavior in the workplace. While this R<sup>2</sup> value is slightly lower compared to that of employee performance, it still demonstrates a substantial explanatory power of the model in predicting innovative work behavior. Overall, the R-squared test results highlight the considerable influence of the exogenous variables, such as transformational leadership and information sharing, on both employee performance and innovative work behavior. These findings underscore the importance of fostering a supportive organizational environment characterized by effective leadership and open

communication to enhance employee performance and stimulate innovation within the workplace.

### 3.3 Hypothesis Test

The last stage in hypothesis testing typically involves assessing the significance of the relationships between variables specified in the structural model. This stage is crucial for validating the hypotheses proposed in the study. However, before conducting hypothesis testing, it is essential to ensure that there are no significant issues in both the outer and inner models. The result is shown as following Table 7.

In hypothesis testing, researchers examine the significance of the relationships between variables based on statistical tests, often using p-values. A p-value indicates the probability of observing the data, or more extreme results, under the assumption that the null hypothesis (no effect) is true. Typically, if the p-value is less than a predetermined significance level (e.g., 0.05), the null hypothesis is rejected, suggesting evidence for a significant relationship between variables. The relationship between Information Sharing and Employee Performance: The p-value is 0.018, indicating that there is a statistically significant relationship between information sharing and employee performance. Therefore, the null hypothesis is rejected, and the relationship is accepted. The relationship between Information Sharing and Innovative Work Behavior: The p-value is 0.133, which is greater than the significance level of 0.05. Thus,

there is insufficient evidence to reject the null hypothesis, suggesting that there is no statistically significant relationship between information sharing and innovative work behavior.

The relationship between Innovative Work Behavior and Employee Performance: The p-value is 0.000, which is less than 0.05. Therefore, there is strong evidence to reject the null hypothesis, indicating a significant relationship between innovative work behavior and employee performance. The relationship between Transformational Leadership and Employee Performance: The p-value is 0.084, which is greater than 0.05. Thus, there is insufficient evidence to reject the null hypothesis, suggesting that there is no statistically significant relationship between transformational leadership and employee performance. The relationship between Transformational Leadership and Innovative Work Behavior: The p-value is 0.000, indicating a statistically significant relationship between transformational leadership and innovative work behavior. Therefore, the null hypothesis is rejected, and the relationship is accepted.

#### 4. DISCUSSION

Impact of Information Sharing on Employee Performance Based on the outcome of data processing in SmartPLS version 3.0, as shown in Table 7, it is known that the first hypothesis (H1), that is, the influence of the transformation leadership variable on employee performance, has a statistical T-value of  $> 1.96$  ( $\alpha 5\%$ ). Furthermore, the P-value value is  $0.013 < 0.05$ . To the extent that the First Hypothetic (H1) is accepted, this means that information sharing has been shown to have a positive and significant influence on Employer Performance. So, it can be understood that the better the level of information sharing that is shared on the start-up company that is based in Yogyakarta, the higher the employee performance level is. Research carried out by [35] identified four variable contexts that contribute to the success of an innovation cu: curiosity, advocacy of new ideas, collaboration, and objectivity. The Impact of Transformational Leadership on Employee Performance in Start-Up Companies in Yogyakarta Transformational leadership is a more effective style of leadership to evade positive behavior and extra roles of employees. As mentioned earlier by [36], transformational leadership can be used to encourage followers to

deal with their interests, give feedback, set high-performance standards, help followers become more creative and innovative, and pay attention to what followers need [37].

This is supported by a study conducted by [38] that investigated the impact of transformational leadership on performance in 323 hotel employees in Spain. Arif & Akram [39] researched the influence of transformative leadership on performance mediated by innovation by taking a sample of 100 manufacturing employees at MIA Group, Pakistan. Top et al. [40] that surveyed 252 employees in the Kurdistan region, Iraq, and mentioned that transformational leadership has a strong relationship to employee performance. A study conducted by Cahyandani [41] stated that transformational leadership has a positive impact on employee performance in 63 employees of PT Taspen (Persero) at the main branch office of Surabaya [42]. Noted that transitional leadership had a positive and significant impact on the performance of CV employees. SKM Indonesia. Research conducted by Almer et al. [43] shows that transformational leadership has a significant impact on employee performance at PT Dipo Bintang Finance.

Influence of Information Sharing on Innovative Work Behavior Based on the results of data processing in SmartPLS version 3.0, as shown in Table 7, it is possible to know that the second hypothesis (H2), that is, the influence of the information sharing variable on innovative work behavior has a statistical T-value  $> 1.96$  ( $\alpha 5\%$ ). So, it can be understood that the better the level of information sharing, the higher the rate of innovative work behavior is. Sharing information is one of the things that can be considered in the development of staff performance. This is stated by Magnus & DeChurch [44], which states that sharing information supports employee performance. Sharing information is also mentioned to be more positive about employees' performance when discussions are conducted with high intensity [44]. A study conducted by Li & Sandino, [45] states that sharing information affects employee performance in retailers [46]. States that the sharing of information can improve employees' performance. Research carried out by Dyer & Nobeoka [47] at Toyota Manufacturing Company found that sharing knowledge between employees and suppliers will help determine high knowledge and performance. A study conducted by Rajalingam et al. [48] mentioned that employee



empowerment devices such as sharing information affect employee performance at a manufacturing company in Penang, Malaysia.

**Impact of Innovative Work Behavior on Employee Performance** Based on the results of data processing in SmartPLS version 3.0, as shown in Table 7, it can be found that the third hypothesis (H3), that is, the influence of the variable innovative work behavior on employee performance has a statistical T-value of  $> 1.96$  ( $\alpha$  5%). So far as the third hypothesis (H3) is accepted, it means that innovative work behavior has been shown to have a positive and significant impact on employee performance. So it can be understood if the innovative work behavior of the start-up company in Yogyakarta is good, then also the employee performance at the company. Transformational leadership involves a system of personal values of its followers, thus encouraging them to go beyond conventional agreement boundaries of expected performance; leaders also stimulate followers to do more than expected by motivating employees intrinsically. Transformational leaders can drive followers through intellectual stimulus to reevaluate their potential problems and work environment where innovative ideas can grow.

Using inspirational motivation, a leader can encourage followers or employees to believe in their ability to display and realize. Employees who are conscious and confident of their competence tend to show innovative work behavior [49]. Transformational leadership can stimulate intellectual thinking that will encourage employees to think outside the box, thereby enabling them to do things to the company's vision and mission more effectively [50]. Organizations that are committed to competitive advantage need to adapt to support change. Organizations or companies must create smart leaders to lead the organization toward change; both encourage employees to be creative in the workplace [51]. This is supported by research carried out by Reuvers et al. [52], Afsar & Umrani [53], Masood & Afsar [54], which reveals that transformational leadership has a positive relationship with innovative Work Behavior. Research carried out by Muzakki & Christina [55], Arif & Akram [39] mentions that transformative leadership is positively and significantly related to innovative work behaviors.

**Impact of Transformational Leadership on Employee Performance** Based on the results of data processing in SmartPLS version 3.0, as

shown in Table 7, then it is known that the fourth hypothesis (H4), the influence of the transformational Leadership variable on Employer Performance has a statistical T-value  $< 1.96$  ( $\alpha$  5%). Furthermore, the P-value value is  $> 0.05$ . So far as the Fourth Hypothetic (H4) is stated and rejected, this has to mean that transformational leadership has a negative and insignificant influence on innovative work behavior. So, it can be understood that in this study, if Transformational leadership decreases, then the level of employee performance in the existing Start-Up Company in Yogyakarta increases.

**Impact of Transformational Leadership on Innovative Work Behavior** Based on the results of data processing in SmartPLS version 3.0, as shown in Table 7, it is known that the fifth hypothesis (H5), i.e., the influence of transformational leadership on innovative work behavior has a statistical T-value  $> 1.96$  ( $\alpha$  5%). Moreover, the P-value value is  $0,000 < 0.05$ . As far as the hypothetical differential (H5) is accepted, this has the meaning that transformative leadership has been shown to have a positive and significant influence on innovative working behavior. Thus, it can be understood that if Transformational leadership in Start-Up Companies in Yogyakarta increases, then the level of Innovative work behaviors in this Company also rises, as well as if the levels of Transformative work-sharing leadership in the Company decrease, it also decreases by a negative level of innovative work conduct in the Start-up company [56]. Stated that employed employees who have an innovative spirit will accumulate ideas or creativity and will continue to consider a variety of information to create new ideas that will be used to improve their performance. Therefore, employees may be willing to learn to discover and develop ideas to solve the problems they will face. Of course, this is not forgotten to improve the performance of employees' duties in the company [57]. This is supported by a study conducted by Aryee et al. [58], who surveyed 200 employees of a large telecommunications company located in the East Sea province of the People's Republic of China. The findings indicate that innovative work behavior has an impact on employee performance. The study carried out by Alawamleh et al. [59] also investigated all managers and leaders of large-scale private sector organizations located in Jordan who work in the pharmaceutical industry [60] stated that innovative working behavior has a positive

relationship with employee performances in 200 employees in the R&D production department and manufacturing marketing of Unilever Pakistan PT. Muttaqin et al. [3] mentioned that innovative work behaviors have a positive relation to employees' performance.

The significant impact of Transformative Leadership on Employee Performance will not influence the hypotheses, but based on the performance tables, it hurts performance. So it can be meant that within the Start-Up Company that exists in Yogyakarta, Innovative work behavior does not influence a variable of mediation; therefore, innovative work behavior is absent and remains accepted. Influence of Information Sharing through Innovative Work Behavior on Employee Performance Viewing the results of the hypothesis test based on Table 7 shows that the seventh hypothesis (H7), that is, the influence of the transformational leadership innovative work behavior variable on employee performance has a statistical T-value  $> 1.96$  ( $\alpha$  5%). Furthermore, the P-value value  $< 0.05$ . So far as the sixth hypothesis (H7) is stated is accepted, it has the meaning that the mediating role of the variable Innovative work behavior between Transformational Leadership and Employees Performance has a positive and significant influence. It can mean that when there is a mediated variable Innovative work behavior, then the hypothesis can be accepted or strong. Therefore, the variable Innovative work behavior influences full mediation. A study conducted [21] stated that sharing information can be an important factor in encouraging the creativity and innovation of individuals, organizations, and companies. Fei, 2011, surveyed 175 primary production companies in Slovakia and found that innovative work behavior supports the performance of companies. According to [61], innovative working behavior supports the full sharing of information and performance

## 5. CONCLUSION

Information sharing has a positive influence on employee performance, so the better information sharing is in the start-up company in Yogyakarta, the higher the employee performance in the office, and vice versa. Transformational leadership has a negative influence on Employee Performance. The role of Innovative work behavior for Transformational Leadership on Employee Performance is positive and significant, so the role of mediation of the hypothesis is accepted. This research examined

only seven companies out of the many Start-Up Companies that exist in Yogyakarta. So, this research subject is less than the maximum to generalize to other companies with a larger scope. The implication is that a start-up company based in Yogyakarta, it must maintain Transformational Leadership and Information Sharing to improve employee performance. The organizational culture that exists in the Company must also be further enhanced because it will support the performance of employees. To further research, it is expected to research on objects and samples of research even wider. Expected to investigate using different variables so that the results of the study are more accurate.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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