

Investigating the role digital transformation and human resource management on the performance of the universities

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ABSTRACT

This study aims to analyze the effect of transformational leadership (TL) on organizational citizenship behavior (OCB), the relationship between TL and performance, TL and IWB, Leader member exchange (LMX) and OCB, LMX and performance, LMX and innovative work behavior (IWB), organizational commitment (OC) and OCB, OC and performance, OC and IWB, digital transformation (DT) and OCB, DT and performance, DT and IWB, QWL and OCB, QWL and performance, QWL and IWB, OCB and performance, and the relationship between IWB and performance. The method of this research is quantitative and the population in this study were 341 private universities while the number of samples used in this study were 181 private universities. The sampling technique in this study used multistage random sampling. In this study the study used a seven-point Likert scale. The study uses SmartPLS software as a data processing tool. Validity testing is applied to all question items in each variable and there are several stages of testing that will be carried out, namely through convergent validity testing, average variance extracted (AVE) testing, and discriminant validity testing. There is a positive and significant relationship between TL and OCB, a positive relationship between TL and the performance of private universities. There is also a positive and significant relationship between TL and IWB, a positive and significant relationship between LMX and OCB. However, there is no significant relationship between LMX and university performance. There is a positive and significant relationship between LMX and IWB, a positive and significant relationship between OC and OCB, a positive and significant relationship between OC and university performance, and a positive and significant relationship between OC and IWB. There is also a positive and significant relationship between DT and OCB, an insignificant relationship between DT and university performance. This means that DT cannot directly affect performance. There is an insignificant relationship between DT and IWB, a positive and significant relationship between QWL and OCB. There is a non-significant relationship between QWL and university performance. There is a positive and significant relationship between QWL and IWB as well as between OCB and university performance and also between IWB and university performance.

1. Introduction

In the digital era, higher education in accordance with its vision and mission is an institution that produces superior quality human resources to be able to compete in the digital era (Keskes et al., 2018). Private universities are currently faced with very tight competition in producing quality and highly competitive graduates in the world of work, which requires private universities to respond quickly to changing needs in the world of work by making efforts to produce and improve their performance (Aggarwal et al., 2020). Private universities are currently competing fiercely, including in producing quality

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graduates, which is supported by good learning methods, comfortable and complete lecture facilities, quality human resources, and others. These things as a whole address university performance and one of the university's performances can be seen in the achievement of accreditation scores or ratings held by the National Accreditation Board for Higher Education, lecturers are one of the fundamental resources in an education system in higher education, having very important roles and responsibilities in realizing human quality. In the era of the industrial revolution 4.0, the role of higher education, especially universities, has an important role in efforts to improve the quality of human resources and universities compete to increase competitiveness by improving their performance (Alasiri & AlKubaisy, 2022). Education is an important process in the life of a country, through education the younger generation is prepared to live it better life in the future and the implementation of education in educational institutions must be standardized on national education goals which are the basis for setting goals for the implementation of each educational unit at all levels of education including the higher education level. Work environment factors in tertiary institutions also have an impact on university work performance, employees will work optimally if the work environment is comfortable and supportive (Al-Jubouri, 2023). Leader member exchange (LMX) is a way for a leader to influence the behavior of subordinates, so that they want to work together and work productively to achieve organizational goals to achieve maximum goals so that it can improve university performance (Anand et al., 2018).

The role of higher education, especially universities, has an important role in efforts to improve the quality of human resources and universities compete to increase competitiveness by improving their performance (Bizarria et al., 2021). Education is an important process in the life of a country, through education the younger generation is prepared to live it better life in the future and the implementation of education in educational institutions must be standardized on national education goals which are the basis for setting goals for the implementation of each educational unit at all levels of education including the higher education level (Chen & Hao, 2022). According to Fontinha et al. (2019), work environment factors in tertiary institutions also have an impact on university work performance; employees will work optimally if the work environment is comfortable and supportive. Leader member exchange (LMX) is a way for a leader to influence the behavior of subordinates, so that they want to work together and work productively to achieve organizational goals to achieve maximum goals so that it can improve university performance (Prameswari et al., 2020).

Based on data from LLDIKTI as many as 341 private universities spread across the island of Java, based on the webometric ranking in 2021, out of 341 private universities, only 2 are ranked in the top 10. In the national level ranking for 2021, there are 577 higher education institutions in Indonesia that are included in the assessment. There are 341 private universities spread across the island of Java, based on the 4ICU rankings for 2021 out of 341 private universities, none of them are in the top 10. Based on the OS ranking in 2020, not a single university in the Java Island region is ranked in the top 20. Transformational leadership has a significant and positive effect on university performance variables, this result is in line with research by Bizarria et al. (2021) that transformational leadership has a significant and positive effect on university performance variables. Transformational leadership has a positive and significant effect on university performance. LMX has a positive and insignificant effect on university performance, LMX has a positive and insignificant effect on university performance (Gaudet & Tremblay, 2017).

Hackett et al. (2018) and Herman et al. (2018) found that digital transformation has a positive and significant effect on university performance, research by Khalili (2017), Bogler and Somech (2019) and Lim et al. (2017) states that OCB has a direct positive and significant influence on the performance of a university. Jiang et al. (2017) and Khan et al. (2020) stated that OCB has a positive and significant direct influence on the performance of a university. Lim et al. (2017) found that OCB has a direct positive and significant influence on the performance of a university. Fontinha et al. (2019) and Gaudet and Tremblay (2017) stated that OCB has a direct influence on the performance of a university.

This study aims to find the magnitude of the influence of the variables studied and strategies to improve performance to be used as input and recommendations to be related parties. We do this by examining the strength of the relationship between transformational leadership variables, OCB, LMX, organizational commitment (OC), IWB and digital transformation (DT) on the performance of private universities in the LLDIKTI region in detail as follows: analyzing the relationship between transformational leadership (TL) and OCB, analyzing the relationship between transformational leadership and performance, to analyze the relationship between transformational leadership and IWB, to analyze the relationship between LMX and OCB, to analyze the relationship between LMX and performance, to analyze the relationship between LMX and IWB, to analyze the relationship between organizational commitment to OCB, to analyze the relationship between organizational commitment to performance, to analyze the relationship between organizational commitment to IWB, to analyze the relationship between digital transformation and OCB, to analyze the relationship between digital transformation and performance, to analyze the relationship between digital transformation and IWB, to analyze the relationship between QWL and OCB, to analyze the relationship between QWL and performance, to analyze the relationship between QWL and IWB, to analyze the relationship between OCB and performance and to analyze the relationship between IWB and performance.

2. Method

In this research, the object of research consists of the independent variables and the dependent variable, namely transformational leadership, digital transformation, organizational commitment, quality work life and leader member exchange as independent variables (X) while organizational citizenship behavior, innovative work behavior and main performance of private

universities are considered as the dependent variable (Y). The unit of analysis for this research is a private university with the unit of observation being one of the university leaders, consisting of a vice chancellor or dean. The population in this study was 341 private universities and the determination of the number of samples used in this study was based on the Krejcie and Morgan (1970) table. The total population for the study was 341 private universities. Based on the Krejcie and Morgan table, a minimum sample size of 181 private universities was obtained. will be used as a sample or respondent and represented by the observation unit of one of the university leaders consisting of a vice chancellor. The sampling technique in this study used multistage random sampling, namely sampling using a combination of two or more sampling methods. The first stage is using the proportional stratified random sampling method, namely by determining the number of samples proportionally according to the LLDKTI area with the consideration that the population members are not homogeneous and so that all private universities are represented in each LLDIKTI region, samples are taken in each LLDIKTI region with different proportions. Dissemination of online questionnaires using information technology media, namely online questionnaires. In this study the study used a seven-point Likert scale consisting of “Strongly Disagree”, “Disagree”, “Somewhat Agree”, “Neutral”, “Somewhat Agree”, “Agree”, and “Strongly Agree”. This study uses SmartPLS software as a data processing tool. Validity testing is applied to all question items in each variable and there are several stages of testing that will be carried out, namely through convergent validity testing, average variance extracted (AVE) testing, and discriminant validity testing.

Based on the theoretical description and review of the results of previous studies, the research hypothesis can be formulated as follows:

- H₁:** *There is a positive relationship between transformational leadership and OCB.*
H₂: *There is a positive relationship between transformational leadership and performance.*
H₃: *There is a positive relationship between transformational leadership and IWB.*
H₄: *There is a positive relationship between LMX and OCB.*
H₅: *There is a positive relationship between LMX and performance.*
H₆: *There is a positive relationship between LMX and IWB.*
H₇: *There is a positive relationship between organizational commitment and OCB.*
H₈: *There is a positive relationship between organizational commitment and performance.*
H₉: *There is a positive relationship between organizational commitment and IWB.*
H₁₀: *There is a positive relationship between digital transformation and OCB.*
H₁₁: *There is a positive relationship between digital transformation and performance.*
H₁₂: *There is a positive relationship between digital transformation and IWB.*
H₁₃: *There is a relationship between QWL and OCB.*
H₁₄: *There is a relationship between QWL and performance.*
H₁₅: *There is a relationship between QWL and IWB.*
H₁₆: *There is a positive relationship between OCB and performance.*
H₁₇: *There is a positive relationship between IWB and performance.*

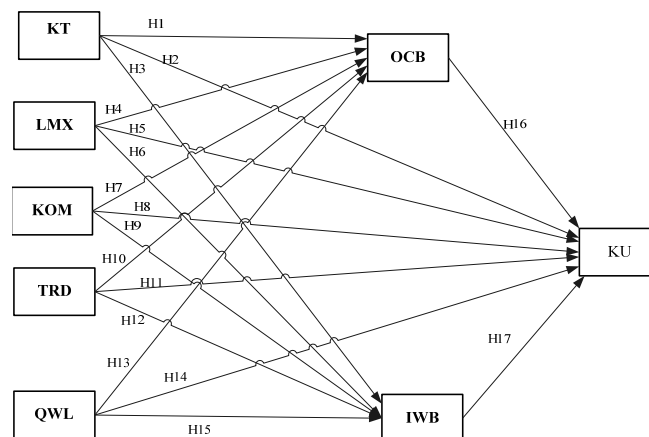


Fig. 1. Research Model
Source: Prepared by the authors (2023)

3. Results and discussion

3.1 Description of Respondents

Respondents in this study were mostly vice-chancellor positions held by men 99 respondents or 60.37 percent and female respondents as many as 65 respondents or 39.63 percent. The structural position of the vice-chancellor at a private university is still dominated by the male sex. Most of the respondents in this study were aged 41 to 50 years, namely 83 respondents or

50.61 percent and at least aged less than 30 years, namely 8 respondents or 4.88 percent. private. 53 respondents or 31.32% and the smallest was from LLDIKTI V - Yogyakarta, namely 15 respondents or 9.15%. Respondents at LLDIKTI IV - Banten & West Java dominate the structural positions of vice-chancellors at private universities. Most of the respondents in this study had the functional position of Lector, namely 75 respondents or 45.73 percent and at least had the functional position of professor, namely 11 respondents or 6.71 percent. Lector's functional position dominates the structural position of vice-chancellor at private universities. as many as 131 respondents or 79.88% and the least was the structural position of vice-chancellor 3, namely 9 respondents or 5.49%. Respondents with the structural position of Deputy Chancellor 1 dominate the structural position of vice-chancellor at private universities. Most of the respondents had a working period of one to three years, 59 respondents or 35.978 percent and at least had a working period of more than five years, namely 18 respondents or 10.98 percent. Respondents with a working period of 1 to 3 years dominate the structural positions of vice-chancellors at private universities.

3.2 Convergent Validity Testing

Convergent validity testing is carried out to find out the factor loading values of all indicators, a factor loading value of more than 0.70 is valid,

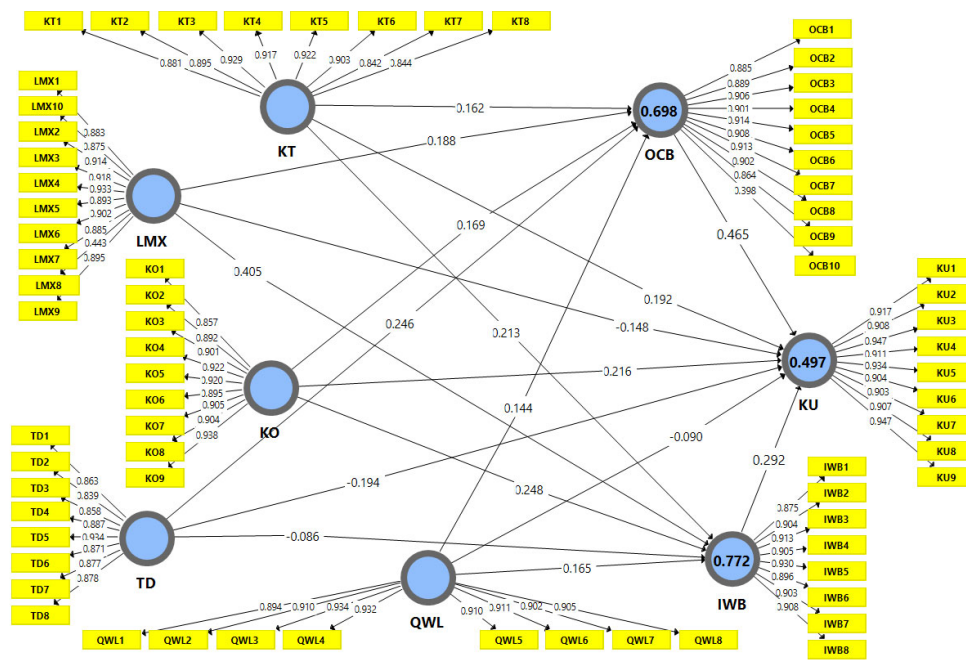


Fig. 2. PLS Model Estimation Results with all Indicators
Source: Prepared by the authors (2023)

3.3 Discriminant Validity Testing

Discriminant validity is carried out to ensure that each concept of each latent variable is different from other variables. The results of discriminant validity testing were obtained as follows:

Table 1
Results of the Fornell Larcker Method's Decriminant Validity Test

	IWB	KO	KT	KU	LMX	OCB	QWL	TD
IWB	0.904							
KO	0.804	0.904						
KT	0.790	0.799	0.892					
KU	0.609	0.614	0.602	0.920				
LMX	0.840	0.793	0.801	0.533	0.902			
OCB	0.702	0.747	0.745	0.631	0.766	0.901		
QWL	0.785	0.790	0.744	0.525	0.824	0.739	0.912	
TD	0.752	0.785	0.822	0.523	0.827	0.774	0.792	0.876

Source: Prepared by the authors (2023).

The results of the discriminant validity test in the table above show that all indicators and constructs in the PLS model have met the required discriminant validity criteria. between constructs. In this HTMT test, the variable is declared to have met discriminant validity if the HTMT value does not exceed 0.9.

Table 2
Discriminant Validity Test based on HTMT value

	IWB	KO	KT	KU	LMX	OCB	QWL	TD
IWB								
KO	0.826							
KT	0.816	0.823						
KU	0.622	0.625	0.620					
LMX	0.865	0.815	0.827	0.544				
OCB	0.720	0.764	0.765	0.644	0.786			
QWL	0.808	0.809	0.766	0.536	0.847	0.758		
TD	0.778	0.809	0.853	0.534	0.855	0.798	0.819	

Source: Prepared by the authors (2023).

Based on the results of the discriminant validity test in Table 2 above, the HTMT value between constructs does not exceed 0.9, the largest HTMT (Heterotrait-monotrait Ratio of Correlations) value is only 0.855, namely HTMT which is formed between the LMX and TD constructs, so it is concluded that validity The discriminant is fulfilled as seen from the HTMT (Heterotrait-monotrait Ratio of Correlations) between constructs.

Table 3
Composite Reliability Test Results

	Cronbach's Alpha	Composite Reliability
IWB	0.968	0.973
KO	0.972	0.976
KT	0.963	0.969
KU	0.977	0.980
LMX	0.971	0.975
OCB	0.971	0.975
QWL	0.971	0.975
TD	0.957	0.963

Source: Prepared by the authors (2023).

Based on the results of the analysis in table 3 above, the Cronbachs alpha and composite reliability values of all constructs have exceeded 0.7, which means that all constructs have met the required reliability, so it can be concluded that all constructs are reliable.

Table 4
Value of R Square Model

Variable	R Square	Criteria
IWB	0.774	<i>strong</i>
KU	0.491	<i>moderate</i>
OCB	0.680	<i>strong</i>

Source: Prepared by the authors (2023).

Based on the results of the analysis in table 4 above, the R square value of the IWB variable is 0.774 and the R Square of the OCB variable is 0.680, because the R square value of these two variables is > 0.67 , it is concluded that the SEM PLS model is strong in predicting IWB and OCB based on the values of the exogenous variables, while in predicting University Performance (KU), the PLS SEM model is in the moderate category because its R square value of 0.491 is in the interval $0.33 - 0.67$ which means that the model is strong enough in predicting university performance based on the value of its exogenous variables. The R square value of the IWB variable is 0.774 or 77.4%. It can be concluded that the KT, LMX, KO, TD and QWL variables contribute 77.4% to the IWB variable while the remaining 22.6% is contributed by other variables not discussed in this study. The R square value of the OCB variable is 0.680 or 68%. It can be concluded that the KT, LMX, KO, TD and QWL variables contribute 68% to the OCB variable while the remaining 22% is contributed by other variables not discussed in this study. The R square value of university performance is 0.491 or 49.1%. It can be concluded that the IWB, OCB, KT, LMX, KO, TD and QWL variables contribute 49.1% to the IWB variable while the remaining 50.9% is a contribution from other variables not discussed in this section. Besides being seen from the R square value, the quality criteria for the PLS model are also assessed from the Q Square value. In the PLS analysis, Q square values are categorized into 3 categories, namely small, medium and large, a Q square value of 0.02 is considered small, a Q square value of 0.15 is considered moderate and a Q square value of 0.35 is considered large.

Table 5

Q square

Construct	SSO	SSE	Q ² (=1-SSE/SSO)
IWB	1312,000	489,826	0.627
KO	1476,000	1476,000	
KT	1312,000	1312,000	
KU	1476,000	870,948	0.410
LMX	1476,000	1476,000	
OCB	1476,000	674,370	0.543
QWL	1312,000	1312,000	
TD	1312,000	1312,000	

Source: Prepared by the authors (2023).

Based on the results of the analysis in table 5 above, the IWB variable's Q square value is 0.627, KU's Q square value is 0.410 and OCB's Q square value is 0.543, because the model's Q square value is > 0.35 , it is concluded that the predictive relevance of this model is large. Apart from looking at the R square and Q square values, the suitability of the PLS model and the data being analyzed can also be seen from the SRMR value. The model is declared perfect fit if the model's SRMR < 0.08 and the model is declared fit if the model's SRMR < 0.10 .

Table 6

SRMR Model

	Saturated Model	Criteria
SRMR	0.055	Perfect Fit

Source: Prepared by the authors (2023).

Based on the results of the analysis in table 6 above, the results of the analysis show that the model's SRMR value is 0.098. Because the model's SRMR < 0.10 , it is stated that the model is fit in predicting the influence of the variables in the model. Based on the results of evaluating the feasibility of the model by looking at the R square, Q square and SRMR values of the model, it can be concluded that the PLS model is feasible to use to test the research hypothesis.

3.3 Effect Size value

The value of $f^2 = 0.02$ shows a small change effect; $f^2 = 0.15$ indicates a moderate category change effect and $f^2 = 0.35$ indicates a large change effect.

Table 7

Effect Size

	IWB	KO	KT	KU	LMX	OCB	QWL	TD
IWB				0.046				
KO	0.070			0.023		0.025		
KT	0.051			0.021		0.015		
KU								
LMX	0.158			0.017		0.024		
OCB				0.111				
QWL	0.029			0.002		0.015		
TD	0.007			0.011		0.044		

Source: Prepared by the authors (2023).

The results of the analysis in the table above show that in the endogenous variable Innovative Work Behavior (IWB), the largest change comes from the LMX variable with f^2 of 0.158, while the lowest change is in the digital transformation variable with very small f^2 of 0.007, meaning that Leader Member Exchange is a factor which has the most influence on changes in innovative work behavior, while changes that occur in digital transformation have little impact on changes in innovative work behavior. Furthermore, for endogenous OCB, it turns out that digital transformation is the most influential factor for changes in OCB with f^2 of 0.044, while leadership Transformational and quality work life do not have much impact on changes in OCB. Furthermore, on endogenous university performance, the factor that has the most influence on changes in university performance is OCB, while the one that has the weakest effect on changes in university performance is quality work life.

3.4 Hypothesis testing

The results of testing the hypothesis testing through the bootstrapping method are as follows

Table 8
Results of the Direct Effect Test

No	(Path)	Coefficient	T Statistic	P Value
1	KT → OCB	0.141	1.942	0.026
2	KT → KU	0.215	2.117	0.017
3	KT → IWB	0.215	2.971	0.001
4	LMX → OCB	0.190	2.194	0.014
5	LMX → KU	-0.221	1.356	0.088
6	LMX → IWB	0.409	4.694	0.000
7	KO → OCB	0.176	2.875	0.002
8	KO → KU	0.223	2.161	0.015
9	KO → IWB	0.247	3.208	0.001
10	TD → OCB	0.252	2.938	0.002
11	TD → KU	-0.165	1.123	0.131
12	TD → IWB	-0.084	1.408	0.080
13	QWL → OCB	0.138	2.071	0.019
14	QWL → KU	-0.062	0.502	0.308
15	QWL → IWB	0.160	2.546	0.005
16	OCB → KU	0.421	5.491	0.000
17	IWB → KU	0.322	2.103	0.018

Source: Prepared by the authors (2023).

Based on the results of the analysis in the table above, the results show that some direct paths have significant p values and some direct paths have insignificant p values, this means that not all exogenous variables in the PLS model are proven to directly influence the endogen. Further explanation of the test results is as follows:

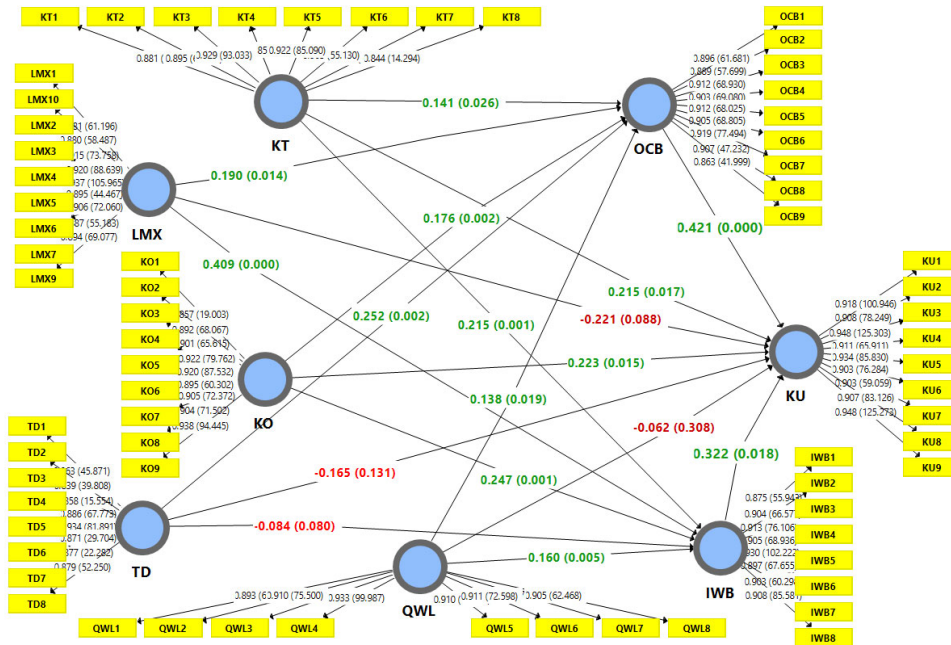


Fig. 4. Estimation results of the PLS Bootstrapping model

Source: Prepared by the authors (2023).

The relationship between transformational leadership and OCB

On the path that shows the effect of transformational leadership (KT) on organizational citizenship behavior (OCB), a very significant p value (0.026) is obtained with a T statistic of 1.942 and a positive path coefficient of 0.141, because the p value <0.05; T statistic > 1.96 and the path coefficient is positive, it is concluded that transformational leadership (KT) has a positive and significant effect on organizational citizenship behavior (OCB), this means that the higher the transformational leadership (KT), the higher the organizational citizenship behavior (OCB)., transformational leadership is proven to be a factor that influences the high and low of organizational citizenship behavior. According to Hackett et al. (2018), Herman et al. (2018)

and Jiang et al. (2017), employees with high transformational leadership tend to have high organizational citizenship behavior, while employees with low work transformational leadership tend to have low organizational citizenship behavior.

The relationship between transformational leadership and performance

According to data analyzing conclude that transformational leadership (KT) has positive and significant value on university performance (KU), the p value is $0.019 < 0.050$ and T value is $2.117 > 1.96$. According to Khorakian and Sharifirad (2019), Khalili (2017), Keskes et al. (2018), Klotz et al. (2018) and Lim et al. (2017), transformational leadership is proven to be a factor that influences high and low university performance. Employees with high transformational leadership tend to have high university performance, while employees with low job transformational leadership tend to have low university performance.

The relationship between transformational leadership (KT) and innovative work behavior (IWB)

On the path that shows the influence of transformational leadership (KT) on innovative work behavior (IWB), a very significant p value (0.001) is obtained with a T statistic of 2.971 and a positive path coefficient of 0.215, because the p value < 0.05 ; T statistic > 1.96 and positive path coefficient, it is concluded that transformational leadership (KT) has a positive and significant effect on innovative work behavior (IWB), this means that the higher the transformational leadership (KT), the higher the innovative work behavior (IWB). According to Liao et al. (2018), Luu et al. (2019), Mi et al. (2019), Miao et al. (2018) and Mohammadi and Karupiah (2020), transformational leadership is proven to be a factor that influences the height and low of innovative work behavior. Employees with high transformational leadership tend to have high innovative work behavior, while employees with low work transformational leadership tend to have low innovative work behavior.

The relationship between leader member exchange (LMX) and organizational citizenship behavior (OCB)

On the path that shows the effect of leader member exchange (LMX) on organizational citizenship behavior (OCB), a very significant p value (0.014) is obtained with a T statistic of 2.194 and a positive path coefficient of 0.190, because the p value < 0.05 ; T statistics > 1.96 and the path coefficient is positive, it is concluded that leader member exchange (LMX) has a positive and significant effect on organizational citizenship behavior (OCB), this means that the higher the leader member exchange (LMX), the higher the organizational citizenship behavior (OCB). According to Nohe and Hertel (2017), Radstaak and Hennes (2017) and Ocampo et al. (2018) leader member exchange is proven to be a factor that influences the high and low of organizational citizenship behavior. Employees with high leader member exchange tend to have high organizational citizenship behavior, while employees with low leader member exchange tend to have low organizational citizenship behavior.

The relationship between leader member exchange (LMX) and university performance (KU)

On the path that shows the influence of leader member exchange (LMX) on university performance (KU), the p value is not significant (0.088) with a T statistic of 1.356, because the p value is > 0.05 and the T statistic is < 1.96 , it can be concluded that the leader member exchange (LMX) has no significant effect on university performance (KU), this means that the leader member exchange has no significant effect on university performance.

The relationship between leader member exchange (LMX) and innovative work behavior (IWB)

On the path that shows the influence of leader member exchange (LMX) on innovative work behavior (IWB), a very significant p value (0.000) is obtained with a T statistic of 4.694 and a positive path coefficient of 0.409, because the p value < 0.05 ; T statistic > 1.96 and positive path coefficient, it is concluded that the leader member exchange (LMX) has a positive and significant effect on innovative work behavior (IWB), this means that the higher the leader member exchange (LMX), the higher the innovative work behavior. (IWB), the leader member exchange is proven to be a factor that influences the level of innovative work behavior. According to Organ et al. (2018), Peng et al. (2017), Peng and Tao (2022), Pio and Tampi (2018) and Teng et al. (2020), employees with high leader member exchange tend to have high innovative work behavior, while employees with low leader member exchange tend to have low innovative work behavior.

Relationship of organizational commitment (KO) to organizational citizenship behavior (OCB)

According to data analyzing that organizational commitment (Ko) has a positive and significant value on organizational citizenship behavior (OCB), the p value is $0.002 < 0.050$ and T value is $2.875 > 1.96$. According to Usman et al. (2021); Wong et al. (2019); Yu et al. (2021); Yu et al. (2022), employees with high organizational commitment tend to have high organizational citizenship behavior, while employees with low work organizational commitment tend to have low organizational citizenship behavior.

Relationship of organizational commitment (KO) to university performance (KU)

On the path that shows the effect of organizational commitment (KO) on university performance (KU), a very significant p value (0.015) is obtained with a T statistic of 2.161 and a positive path coefficient of 0.223, because the p value < 0.05 ; T

statistic > 1.96 and the path coefficient is positive, it is concluded that organizational commitment (KO) has a positive and significant effect on university performance (KU), this means that the higher the organizational commitment (KO) the higher the university performance (KU). According to Organ et al. (2018); Yu et al. (2021); Yu et al. (2022), organizational commitment is proven to be a factor that influences high and low university performance. Employees with high organizational commitment tend to have high university performance, while employees with low work organizational commitment tend to have low university performance.

Relationship of organizational commitment (KO) to innovative work behavior (IWB)

According to data analyzing concluded that organizational commitment (KO) has positive and significant value on Innovative work behavior (IWB), the p value is $0.001 < 0.050$ and T value is $3.208 > 1.96$. According to Bizarria et al. (2021), Chen and Hao (2022) Employees with high organizational commitment tend to have highly innovative work behavior, while employees with low organizational commitment tend to have low innovative work behavior.

The relationship between digital transformation (TD) and organizational citizenship behavior (OCB)

According to data analyzing that digital transformation (TD) has a positive and significant value on organizational citizenship behavior (OCB), the p value is $0.002 < 0.050$ and the T value is $2.938 > 1.96$. According to Farid et al. (2019), Fontinha et al. (2019) and Gaudet et al. (2017), employees with high digital transformation tend to have high organizational citizenship behavior, while employees with low work digital transformation tend to have low organizational citizenship behavior.

The relationship of digital transformation (TD) to university performance (KU)

On the path that shows the effect of digital transformation (TD) on university performance (KU), the p value is not significant (0.131) with a T statistic of 1.123, because the p value is > 0.05 and the T statistic is < 1.96 , so it can be concluded that digital transformation (TD) has no significant effect on university performance (KU), this means that digital transformation has no effect on university performance. The relationship between digital transformation (TD) and innovative work behavior (IWB). On the path that shows the effect of digital transformation (TD) on innovative work behavior (IWB), the p value is not significant (0.080) with a T statistic of 1.408, because the p value is > 0.05 and the T statistic is < 1.96 , it is concluded that digital transformation (TD) has no significant effect on innovative work behavior (IWB), this means that digital transformation has no effect on the level of innovative work behavior.

The relationship between quality work life (QWL) and organizational citizenship behavior (OCB)

According to data analyzing that Quality of Work of Life (QWL) has a positive and significant value on organizational citizenship behavior (OCB), the p value is $0.019 < 0.050$ and T value is $2.071 > 1.96$. According to Hackett et al. (2018); Herman et al. (2018); Jiang et al. (2017) Employees with high quality work life tend to have high organizational citizenship behavior, while employees with low quality work life tend to have low organizational citizenship behavior.

The relationship between quality work life (QWL) and university performance (KU)

On the path that shows the effect of quality work life (QWL) on university performance (KU), the p value is not significant (0.308) with a T statistic of 0.502, because the p value is > 0.05 and the T statistic is < 1.96 , it can be concluded that quality work life (QWL) has no significant effect on university performance (KU), this means that quality work life has no effect on university performance.

Relationship between quality work life (QWL) and innovative work behavior (IWB)

According to data analyzing that Quality Work of Life (QWL) has positive and significant value on innovative work behavior (IWB), the p value is $0.005 < 0.050$ and T value is $2.546 > 1.96$. This means that the higher the quality work life (QWL), the higher the innovative work behavior. (IWB), quality work life is proven to be a factor that influences the height and low of innovative work behavior. According to Khorakian and Sharifirad (2019), Khalili (2017), Keskes et al. (2018), Klotz et al. (2018) and Lim et al. (2017), employees with high quality work life tend to have high innovative work behavior, while employees with low quality work life tend to have low innovative work behavior.

The relationship between organizational citizenship behavior (OCB) and university performance (KU)

On the path that shows the effect of organizational citizenship behavior (OCB) on university performance (KU), a very significant p value (0.000) is obtained with a T statistic of 5.491 and a positive path coefficient of 0.421, because the p value < 0.05 ; T statistic > 1.96 and the path coefficient is positive, it is concluded that organizational citizenship behavior (OCB) has a positive and significant effect on university performance (KU), this means that the higher the organizational citizenship behavior (OCB), the higher the university performance (KU), organizational citizenship behavior is proven to be a factor that influences high and low university performance. According to Khalili (2017), Keskes et al. (2018), Klotz et al. (2018) and

Lim et al. (2017), employees with high organizational citizenship behavior tend to have high university performance, while employees with low organizational citizenship behavior tend to have low university performance.

The relationship between innovative work behavior (IWB) and university performance (KU)

According to data analyzing conclude that Innovative work behavior (IWB) has positive and significant value on university performance (KU), the p value is $0.018 < 0.050$ and T value is $2.103 > 1.96$, innovative work behavior is proven to be a factor that influences the level of university performance. According to Klotz et al. (2018), Lim et al. (2017), employees with high innovative work behavior tend to have high university performance, while employees with low innovative work behavior tend to have low university performance.

In PLS SEM analysis, the coefficient of determination of the endogenous variables shows the magnitude of the simultaneous influence of all exogenous on endogenous. The value of the coefficient of determination can be seen from the R square value for each endogen and the value ranges from 0-1 or can also be used as a percentage unit ranging from 0-100%. In the PLS SEM model with a number of exogenous variables more than 1, R Square needs to be adjusted so that the value of the coefficient of determination can be seen from the adjusted R Square value. Based on this value, the higher the adjusted R Square model, the higher the influence of all exogenous on endogenous. The high value of the coefficient of determination is also synonymous with the goodness of the model, the higher the coefficient of determination, the stronger the model because the percentage of endogenous variance that can be explained by exogenes is greater.

Table 9
Determination Coefficient

	R Square	R Square Adjusted
IWB	0.774	0.767
KU	0.491	0.469
OCB	0.680	0.670

Source: Prepared by the authors (2023).

Based on the adjusted R square value of each endogen, the result is that the adjusted R Square IWB value is 0.767, this means that 76.7% of the variance of innovative work behavior is influenced by transformational leadership, LMX, digital transformation, organizational commitment, and quality of life. while the remaining 23.3% of the variance of innovative work behavior is influenced by other factors besides transformational leadership, LMX, digital transformation, organizational commitment and quality of life. Furthermore, for the OCB variable, the adjusted R square OCB value is 0.670, this means that 67% of the OCB variance is influenced by transformational leadership, LMX, digital transformation, organizational commitment and quality work life, while the remaining 33% of the OCB variance is influenced by other factors outside transformational leadership, LMX, digital transformation, organizational commitment and quality work life. Furthermore, on university performance variables, the adjusted R square KU value is 0.469, this means that 46.9% of the university performance variance is influenced by transformational leadership, LMX, digital transformation, organizational commitment and quality of life, while the remaining 53.1% variance University performance is influenced by other factors besides transformational leadership, LMX, digital transformation, organizational commitment and quality work life.

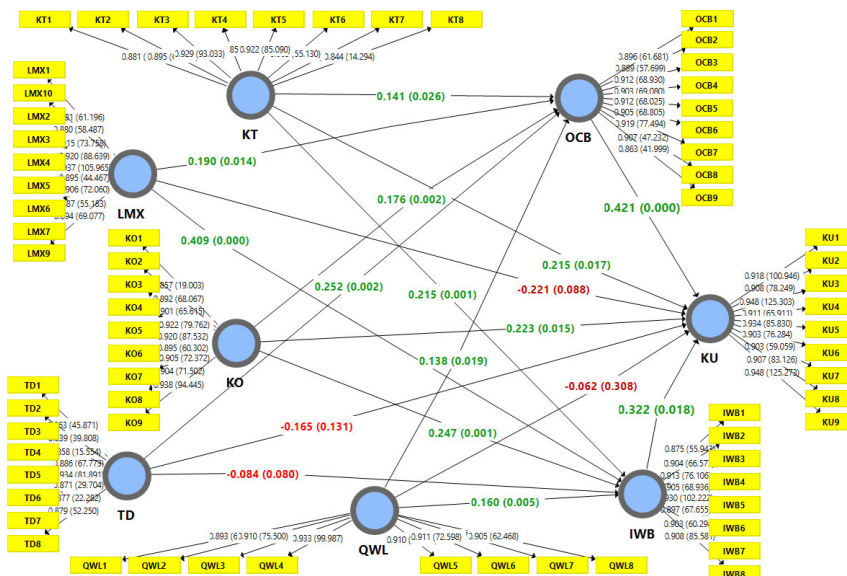


Fig. 5. PLS SEM Model Estimation Results with Bootstrapping technique
Source: Prepared by the authors (2023).

Mediation Effect Test (Variance Account Floor)

VAF (Variance Account Floor) is a mediation effect test. In this test, if the VAF value is $<20\%$, it is stated that the variable suspected of being a mediating variable is proven not to be a mediating variable, while if the VAF value is at an interval of $20\% < \text{VAF} < 80\%$, the mediating variable is proven to be able to mediate with the nature of partial mediation and if the VAF value is $> 80\%$, it is stated that the mediating variable is proven to be able to mediate with full mediation properties (Hair et al., 2012). Full mediation means that the independent variable is not able to significantly influence the dependent variable without going through the intermediary variable, partial mediation means that the independent variable is able to directly influence the dependent variable without going through or involving the intermediary variable, unmediated means without involving the intermediary variable, directly the independent variable is able to influence the intermediary variable. dependent. Based on the results of testing the inner model with the bootstrapping technique, the path coefficient values of the direct and indirect effects are obtained. These values will then be used to calculate the VAF value in testing the mediating effect.

University Performance mediation effect test

Based on the path coefficient values, the results of the mediation effect test with the VAF formula are as follows:

Table 10
Results of the IWB Mediation Effect Test

Path	Direct effect	Indirect Effect	Total	VAF	Mediation effect
KT → IWB → KU	0.215	0.069	0.284	24.30%	Partial Mediation
LMX → IWB → KU	0.221	0.132	0.353	37.39%	Partial Mediation
KO → IWB → KU	0.223	0.080	0.303	26.40%	Partial Mediation
TD → IWB → KU	0.165	0.027	0.138	19.57%	No Mediation
QWL → IWB → KU	0.062	0.052	0.114	45.61%	Partial Mediation

Source: Prepared by the authors (2023).

Based on these results, it can be concluded that IWB is a partial mediation for the influence of KT, LMX, KO and QWL on KU, but in the effect of digital transformation on university performance, IWB is not a mediator.

OCB mediating effect

Based on the path coefficient values, the results of the mediation effect test with the VAF formula are as follows:

Table 11
OCB Mediation Effect Test Results

Path	Direct effect	Indirect effect	Total	VAF	Mediation Effect
KT → OCB → KU	0.215	0.060	0.275	21.82%	Partial Mediation
LMX → OCB → KU	0.221	0.080	0.301	26.58%	Partial Mediation
KO → OCB → KU	0.223	0.074	0.297	24.92%	Partial Mediation
TD → OCB → KU	0.165	0.106	0.271	39.11%	Partial Mediation
QWL → OCB → KU	0.062	0.058	0.120	48.33%	Partial Mediation

Source: Prepared by the authors (2023).

Based on these results it is concluded that OCB is a partial mediation of the influence of KT, LMX, KO, TD and QWL on KU

Importance-Performance Map Analysis (IPMA)

The importance of performance matrix analysis (IPMA) is useful in extending the findings of the PLS-SEM baseline results using latent variable scores (Hair et al, 2016). Hair et al (2014), explained that the IPMA analysis was measured based on a structural model where the importance value was obtained from the total effect received by the construct and the performance value was obtained from the latent variable score. This is significant enough to be used as material for consideration in making improvements to a management activity.

IPMA Analysis on University Performance Construct

The latent construct attributes in the University Performance construct consist of the Organizational Commitment (KO) construct, the Transformational Leadership Construct (KT), the Leadership Member Exchange (LMX) construct, the Quality Work Life (QWL) construct and the Digital Transformation (TD) construct. Based on the results of the analysis in Fig. 6, it was found that among the five latent constructs of university quality variables, the latent constructs in quadrant I were the Organizational Commitment construct, the Transformational Leadership construct and the Leader Member Exchange construct, while in Quadrant II it was filled with Quality Work Life and Digital Transformation, as for Quadrants III and IV, is not supplemented by any attributes. This means that in the formation of high-performance universities, digital transformation and Quality Work Life that have existed so far are important attributes that have been carried out well so far, while

organizational commitment, transformational leadership constructs and Leadership Member Exchange are important attributes in establishing university quality but so far it has not gone well, this means that in the future, improving university quality can start from improving organizational commitment, the Transformational Leadership construct and the Leadership Member Exchange construct, because these three attributes are very important attributes in establishing university quality but not working as expected.

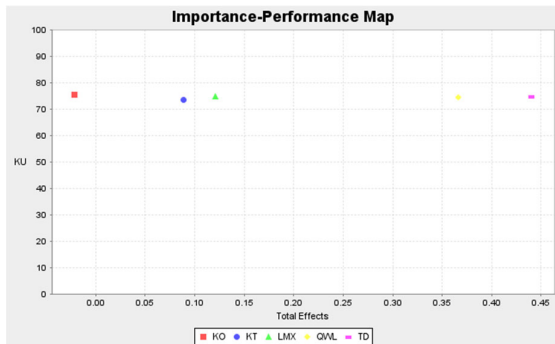


Fig. 6. IPMA Graph of Variables

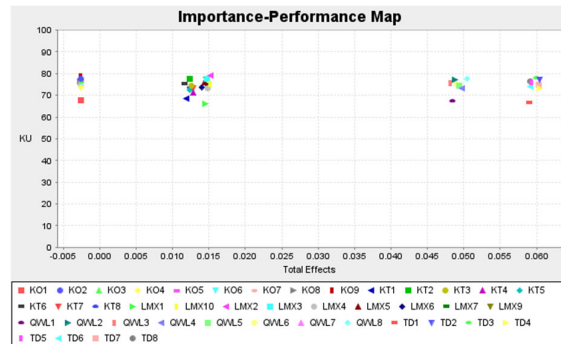


Fig. 7. IPMA Graph of Indicators

Source: Prepared by the authors (2023).

The results of the analysis in Fig. 7 are the results of a follow-up analysis of the latent construct IPMA analysis of university quality variables. Based on the results of the analysis in Fig. 4, the result is that there are 4 manifest construct attributes that must be improved in an effort to improve university performance. These four attributes are:

- (1) KO1: Members of private universities feel like family at the university.
- (2) KT1: The Chancellor is a role model for its members.
- (3) KT4: Rector gives inspiration to his members.
- (4) LMX1: Private universities involve all leaders and members in work activities.

Implementation of Transformational Leadership

Transformational leadership is proven to be a factor that influences high and low university performance. Chancellors who have a transformational leadership style tend to have high university performance, the application of transformational leadership variables at universities is as follows: Chancellors are respected by their members by being able to manage curriculum, finance, administrative university facilities, and relations within and outside the university. The Chancellor acts as a role model or role model, and has a high commitment to the university he leads. The Chancellor instills a sense of pride in the members of the organization regarding the profession and organization where they work, instills good morals and ethics, so that members will respect and trust the Chancellor. Thus they will have the desire to do the same thing as their leader

a. The Chancellor motivates his members by respecting differences in characteristics and provides individual advice which is very important for the self-development of students and education staff, and proposes to the Faculty leadership to give a reward if they excel so that they can make the Faculty proud. The Chancellor should build two-way communication and personally provide care to lecturers, educational staff and students. Two-way communication and working relationships are built to create a family atmosphere in the work environment at the university so that it becomes solid to move forward together to achieve the university's expectations to face challenges changes to be faced.

b. The Chancellor provides inspiration to his members by listening to various aspirations from students, lecturers and education staff such as ideas and complaints that occur regarding learning needs and the need to improve education delivery. The Chancellor collects ideas and solutions from lecturers, staff and students, especially when there are problems at work and also problems that must be faced by the university. Very good implementation of this dimension can be seen in always inviting lecturers, staff and students to deliberation to find joint solutions when facing problems in the organization. The opinions of lecturers, employees and students are valued, accommodated and never criticized with the motivation of destroying or demeaning. Criticism is given for the purpose of building for the betterment of the organization.

c. The Chancellor encourages the thinking power of its members by facilitating members of the community to participate in various activities in the form of workshops, training, technical guidance and so on so that the quality of human resources is in producing academic work. The Chancellor provides the widest opportunity for lecturers, educational staff and students to express and develop themselves. The urge to find solutions to these problems is carried out through rational, innovative, and creative ways of thinking. The Chancellor always encourages lecturers, staff and students to innovate with new ideas in doing their work, encourages creativity so that they can do work effectively and efficiently. The Chancellor is dissatisfied with monotonous and boring circumstances and methods that result in low performance. New creative and innovative ways are always encouraged to come up with, so that there is energy, joy, and enthusiasm that is also renewed to carry out and complete

every assigned task. The Chancellor encourages and accommodates new ideas and creative problem solving from lecturers, staff and students, who are involved in the process of solving problems and finding solutions. The Chancellor also motivates the lecturers, staff and students to always explore their potentials in relation to the hopes and goals of the organization. Lecturers, staff and students are not treated like robots who only work monotonously and there is no exploration of potential. Subordinates are seen as whole human beings who have very valuable potentials that need to be explored and improved.

Implementation of Organizational Citizenship Behavior (OCB)

OCB is proven to be a factor that influences high and low university performance. University members who have OCXB tend to have high university performance, the application of OCB variables at universities is as follows: a. University members do the work of other members who are not present. OCB at the university is marked by the exchange of knowledge and skills among university members who will help and support each other at work so that work and problems can be resolved more quickly. This also affects the performance of university members because they do not have to work alone but instead get support from their colleagues. Willingness of university members to replace colleagues when co-workers are unable to come to work. This action will greatly help the performance of colleagues when they are sick or unable to complete work. Work that is not completed on time shows a decrease in the performance of university members, so it is necessary to have partners who are able to cover and assist in completing work when a university member is not at work or unable to complete work. University members have a willingness to help colleagues. Completion of work according to the specified target and on time is one measure of the success of university performance. b. University members work overtime to complete their work. University members carry out an action beyond the role assigned as a lecturer, such as in a work team a lecturer must have interpersonal skills and skills that can only be displayed by individuals who care about other individuals and try to show the best for colleagues and the institution where the individual works. One form of behavior is complying with company regulations even though no one is supervising, and also taking advantage of breaks properly. University members who deliberately linger during breaks and do not immediately return to work according to schedule will automatically be unable to work effectively. This reflects a decrease in the quality of work due to indiscipline in spending rest hours. Compliance with regulations is also reflected in the seriousness of university members to work according to the SOPs implemented even though no one is supervising them, this is very important to be able to maintain university performance.

Implementation of Organizational Commitment

Organizational commitment is proven to be a factor that influences high and low university performance. University members who have organizational commitment tend to have high university performance, the application of organizational commitment variables at universities like University members feel they are part of the family at the university, marked by university members feeling proud to be part of the university they attend and feel that the university has become a part of their lives. Members of the organization feel happy spending their careers at the university, and have high affective commitment will continue their membership at the university because they really want it and are happy with their membership at the university, there is a feeling of obligation on university members to continue working at the university, so they feel they have to stay at the university. Organizational members are willing to sacrifice personal interests commitment related to the dedication of members in continuing the survival of the organization and produce people who are willing to sacrifice and invest in the organization.

Implementation of Innovative Work Behavior (IWB)

IWB is proven to be a factor that influences high and low university performance. Educational innovation at universities is important to improve the quality of learning and adapt to the needs of the job market. Innovation in universities by changing the way things work and providing the necessary resources to implement new technologies. Digital innovation at universities not only improves the quality of education, but also provides new opportunities for universities to develop. The Chancellor makes university innovation policies and programs that will be implemented at the university, the Chancellor makes educational innovation policies and programs that suit the needs and situation of society. Then, educational institutions must adapt to these policies and programs and apply them in learning. However, this model also has weaknesses, namely a lack of flexibility and adaptation to local conditions. Universities make innovations according to local needs and situations, then submit them to the government to be implemented nationally.

University members who have high IWB tend to have high university performance, the application of IWB variables at universities is as follows:

1. Competency-Based Education, the concept of this innovation uses measurements in the competence of students. Where, a good benchmark if students can master the material or learning. It is not related to the amount of time or hours spent by students at school or at university. This innovation is considered a major change in the university and this innovation focuses on overcoming the shortcomings of traditional educational methods or systems.

2. Reverse Learning or Flipped Classroom. This innovation is somewhat the opposite of the previous learning method, students will study and will be given assignments to do at home. However, in reverse learning, students study independently at home. The material is introduced when students are at home by watching videos or other things. Then come to the university to bring questions and do homework about what was learned before. So, students will be more active.

Several strategies can be used to increase Innovation in universities:

a. Increasing student involvement, students are often not focused during class so that material can be skipped. This is because teachers do not know what can keep them interested while in class. Educational innovation needs to be done to increase student involvement. The method is by providing opportunities to contribute, using technology in learning, presenting mentors or supervisors who are competent in the field of educational innovation, and holding webinars. Not a few students prefer to study on their own. Self-directed learning is learning where students are given freedom and responsibility in determining their own goals, content, and learning process.

b. Students are free to determine goals and learning methods that suit their needs, with the guidance of the lecturer as a facilitator. The existence of this strategy can increase motivation, enthusiasm for learning, and creativity, as well as develop independence.

Research, Practical & Social implications: In the formation of high university performance, digital transformation and the existing Quality Work Life are important attributes that have been carried out well, while organizational commitment, transformational leadership constructs and leaders member exchange are important attributes in establishing university quality but so far it has not gone well, this means that in the future, improving university quality can start from improving organizational commitment, transformational leadership and member exchange leadership constructs, because these three attributes are very important attributes in the formation of university quality but have not worked as expected. Transformational leadership is the construct with the lowest performance, meaning that in an effort to improve university performance, transformational leadership is the most important attribute that must be addressed, in addition to the attributes of organizational commitment and leadership member exchange.

Originality/value: The Novelty of this research is the scope of this research area is the LLDIKTI area which is in the provincial areas of Banten and West Java, DKI Jakarta, Central Java, DI Yogyakarta and East Java, while previous studies were geographically limited to only one university or several universities in one city area. A synthesis was found. new variables from leadership, OCB, LMX, organizational commitment, digital transformation, QWL, IWB which are sourced from books, journals and scientific papers as a theoretical basis, so that the new synthesis can become a new reference for the preparation of further research. This research places the variables OCB and IWB as a mediating variable simultaneously and analyzed as a direct and indirect effect on the main performance of private universities which has not existed in previous studies.

4. Conclusion

There is a positive and significant relationship between transformational leadership and OCB. There is a positive and significant relationship between transformational leadership and the performance of private universities. There is a positive and significant relationship between transformational leadership and IWB. There is a positive and significant relationship between LMX and OCB. There is no significant relationship between LMX and university performance. There is a positive and significant relationship between LMX and IWB. There is a positive and significant relationship between organizational commitment to OCB. There is a positive and significant relationship between organizational commitment and university performance. There is a positive and significant relationship between organizational commitment to IWB. There is a positive and significant relationship between digital transformation and OCB. There is an insignificant relationship between digital transformation and university performance. This means that digital transformation cannot directly affect performance. An increase in digital transformation does not significantly increase performance, an increase in digital transformation does not always increase performance. There is an insignificant relationship between digital transformation and IWB. There is a positive and significant relationship between QWL and OCB. There is a non-significant relationship between QWL and university performance. There is a positive and significant relationship between QWL and IWB. There is a positive and significant relationship between OCB and university performance. There is a positive and significant relationship between IWB and university performance.

The results of this study have managerial implications, there are several findings in this dissertation research which have managerial implications to be carried out or applied at universities as follows: In the formation of high university performance, digital transformation and the existing Quality Work Life are important attributes that have been carried out well, while organizational commitment, transformational leadership constructs and leaders member exchange are important attributes in establishing university quality but so far it has not gone well, this means that in the future, improving university quality can start from improving organizational commitment, transformational leadership and member exchange leadership constructs, because these three attributes are very important attributes in the formation of university quality but have not worked

as expected. Transformational leadership is the construct with the lowest performance, meaning that in an effort to improve university performance, transformational leadership is the most important attribute that must be addressed, in addition to the attributes of organizational commitment and leadership member exchange. There are several indicators that must be improved in efforts to improve private university performance, namely KO1 organizational members feel like family at the university, KT1 the chancellor is an example for its members, KT4 the chancellor inspires its members and LMX1 private universities involve all leaders and members in work activities. In terms of the formation of innovative work behavior in private universities, quality work life is a very important variable in the formation of innovative work behavior so far it has been going well, but the attributes of transformational leadership, leader member exchange, organizational commitment, digital transformation are also important attributes in the formation of innovative work behavior has not fully gone well so that it is still not very good at supporting the formation of innovative work behavior, so that in the future an increase in innovative work behavior can be focused on transformational leadership, leader member exchange, organizational commitment, digital transformation, because the fourth these constructs are very important in the formation of innovative work behavior but the performance of the four constructs is not very good. The indicator with the highest importance in the formation of innovative work behavior is QWL, while the attribute with the best performance is organizational commitment and the lowest is transformational leadership and OCB. Thus, efforts to improve innovative work behavior should start with improving leadership and OCB behavior and then continue. on improving university performance, leadership member exchange and digital transformation. Some of the most important indicators I carried out to support the increase in IWB, namely TD5 the organization encourages the improvement of digital facilities, OCB1 members of the organization do the work of other members who are not present. QWL2 organizational members get their rights properly, LMX1 private universities involve all leaders and members in work activities, QWL6 organizational members can develop skills, QWL8: organizational members get career advancement opportunities and private universities have digital facilities.

This research has several limitations and obstacles encountered in conducting this research, therefore it is necessary to provide suggestions for further research so that further research is better. This research is limited to 6 (six) independent variables, namely transformational leadership, leader member exchange, organizational commitment, digital transformation, quality work life, as well as 2 (two) mediating variables, namely organizational citizenship behavior, innovative work behavior and 1 (one) dependent variable, namely university performance which may still have several other variables that also affect the performance of private universities. For further research to expand by adding other variables that have not been discussed in this study such as perceived organizational support and perceived organizational support, subjective well-being and others. The unit of analysis in this study is a private university in the LKDKTI III, IV, V, VI area. and VII which are in the Provinces of Banten and West Java, DKI Jakarta, West Java, Central Java and East Java and the results of this study may not necessarily have the same results if they are duplicated in other LKDIKTI areas. For further research to expand the unit of analysis to state universities and other LKDIKTI areas.

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