

ORGANIZATIONAL KNOWLEDGE MANAGEMENT AS A MEDIATOR ON THE RELATIONSHIP BETWEEN HEADMASTER'S SUSTAINABLE LEADERSHIP AND TEACHER INNOVATIVE WORK BEHAVIOR AT PAHANG PRIMARY SCHOOL (TS25)

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ABSTRACT

The main aim of this study was to test the effect of the Headmasters' Sustainable Leadership (SL) practices, Organizational Knowledge Management (OKM), and Teachers' Innovative Work Behaviour (TIWB). This study also tests the role of Organizational Knowledge Management practices as a mediator in the relationship between Headmasters' Sustainable Leadership practices and Teachers' Innovative Work Behaviour in the primary schools of Transformation School 2025 (TS25). The design of this study utilized a quantitative approach with the survey method involving a total of 318 teachers who were serving in 30 primary schools (TS25) cohorts 1, 2, and 3 in the state of Pahang. The data has been analysed by descriptive and inferential using SPSS-Amos software. The observed data met the requirements of the fit indices (RMSEA=0.06, CFI=0.94, TLI=0.93, Chisq=2.28). The findings showed that significant effect of SL practices on OKM practices ($\beta=.69$, $p<.05$), SL practices on TIWB practices ($\beta=.25$, $p<.05$), and OKM practices on TIWB practices ($\beta=.63$, $p<.05$). Organizational Knowledge Management practices has been identified as a full mediator in the relationship between Headmasters' Sustainable Leadership practices and Teachers' Innovative Work Behaviour in (TS25) schools. As a conclusion, it has been identified that the role of headmasters is crucial in practicing knowledge that relevant to the organization to support the implementation of innovative work behaviour of teachers in schools. In terms of implications, the structural equation model that has been suggested shows that Headmasters' Sustainable Leadership practices may affect Teachers' Innovative Work Behaviour through the application of organizational knowledge management practices in schools. This provides an indicator that courses, training, and educational leadership modules for headmasters and teachers should be planned holistically to improve the quality as well as to transform the education system in Malaysia to achieve the goals of the Malaysia Education Blueprint 2013-2025.

Keywords: Organizational knowledge management, Sustainable leadership, Teaching innovative behaviour, Transformation schools 2025 (TS25).

INTRODUCTION

In today's society that attaches importance to technology and knowledge, innovation is considered a critical factor for the sustainability of competition and the success of an organization (Tahir, Husna, & Zurina, 2016). The innovation abilities of an organization depend on the behaviour of the individual in the organization (Palazzeschi, Bucci, & Di Fabio, 2018). However, there are still gaps in most current

education programmes on the claim (World Economic Forum, 2020). In this regard, an important factor for successful school innovation is the teachers' innovative work behaviour itself (Messmann et al., 2017). Pedagogical innovation, derived from the initiative of teachers and developed in the practical context of the pedagogy of their teaching practices (Solana & Rosa, 2020). However, this behaviour will not be applied in a teacher without any motivating factors, encouragement and organizational support (Widodo & Irvandi Gustari, 2020).

The study focused on the influence of the headmaster's sustainable leadership factor as a non-dependent variable and organizational knowledge management as a mediating variable on the teachers' innovative work behaviour. Sustainable leadership emphasizes the interaction of relationships between leaders and followers (or subordinates), and emphasizes aspects of tolerance, encouragement, and the application of sustainable leadership values to followers and the environment (Sana Rehman, Abdul Sami, Aniqah & Asmara, 2019). In addition, the importance of knowledge management in the organization is identified as having an impact on the productivity of the organization (Abbas, 2020), promoting an attractive work environment (Payal, Ahmed, & Debnath, 2016), increasing creativity, critical thinking among employees and increasing innovation (Kim, Koo & Han, 2021).

Therefore, studies should be carried out empirically to analyse the influence between the management of organizational knowledge in the school, the leadership of the head teacher and the teacher's innovative work behaviour to supports innovation activities in school. The findings from this study will provide an insight to the Ministry of Education Malaysia (MoE) on the reality of teacher's innovative work behaviour in study schools. In turn, it will be possible to improve the process of implementing innovation in the organization at the school level.

LITERATURE REVIEW

Transformation School Program 2025 (TS25)

The Transformation School Programme 2025 (TS25) was implemented starting in 2015, involving 102 primary and secondary schools as the first Cohort Transformation School throughout Malaysia. It is part of the Ministry of Education's efforts towards producing quality schools based on the Transformation School Framework (TS25) through four *Key Result Area* (KRA) which is effective school leadership, meaningful learning environment, quality teachers and external support such as the Parent Teachers Association and the community in turn contribute to the student's well-being (Azhar, Abdul Ghani, Indra Shahril, & Kasmah, 2020). Every year the number of schools is increased according to the cohort until by 2025 all schools in Malaysia have been transformed (MoE, 2013). The implementation of this program aims to produce quality schools by applying best practices in the implementation of management and leadership as well as pedagogy in learning and teaching (Azman, 2017). Therefore, preference should be given to the development aspect of schoolchildren. One of the important aspects is the Teachers' Innovative Work Behaviour (Messmann, Mulder, & Palonen, 2018).

Teachers' Innovative Work Behaviour

Innovative work behaviour is described as a self-initiated behaviour by an individual, that is, a process in which new ideas are generated, developed, applied, promoted, realized, and modified by employees in order to leverage their roles and performance to organizational success (Battistelli, Odoardi, Vandenberghe, Di Napoli, & Piccione, 2019). However, the development of research in this field is more directed towards employee innovation in corporate organizations and the business sector (Thurlings et al., 2015; Messmann & Mulder, 2010). While research on the role of employees' innovative behaviours in non-profit organizations, such as educational institutions (Thurlings et al., 2015), is still limited (Messmann & Mulder, 2014), there are even gaps in studies related to the involvement of academics such as teachers and how their active contributions can be driven and nurtured (Messmann et al., 2018). Therefore, there is a need to explore innovative work behaviours in the context of teacher teaching practices and local culture focused on innovative educational pedagogy due to the uniqueness of innovative work behaviours in teaching and learning practices (Solana & Rosa,

2020; Messmann et al., 2017). In addition, there are still gaps and opportunities for studies to be implemented in the context of these TS25 schools especially in the context of school leadership itself.

Headmasters Sustainable Leadership

The role of school leaders, principals and headmasters as *Senior Leader Team* (SLT) in the Transformation School program (TS25) is crucial to determining the success of this program in their schools. According to Bass (1990) the leadership of a leader has a direct impact with the success of the led organization. Sustainable leadership has the potential to promote innovative work behaviours by motivating employees and fostering an atmosphere conducive to stimulating the development of their creative skills and knowledge that ultimately leads to increased innovation capabilities and competitive advantages for the organization (Park, & Kim, 2018; Schuckert, Kim, Paek, & Lee, 2018). In this study, researchers focused on the Sustainable Leadership style in education pioneered by Hargreaves and Fink (2006).

Organizational Knowledge Management

In addition, this study also looked at the role of organisational knowledge management as a mediating variable of the study. Knowledge management is a concept that emerged in the 1990s focused on the organization and the commercial sphere. This initiative aims at improving performance, competitive advantage, organizational learning, process integration, continuous improvement and innovation of the organization (Hatch & Dyer, 2004; Davenport & Prusak, 1998) as well as improving human resource performance in corporate organizations, such as manufacturing and services. For the school context, knowledge management is an organizational activity that is based on the application of knowledge as an important resource to improve collaborative learning, pupil learning, teacher teaching processes, relationships between members in better organizations and enable schools to improve their overall performance (Cheng, 2015). However, the concept of organisational knowledge management in education is poorly researched especially in schools because, they are somewhat backwards in accepting organizational knowledge management as training (Supermane & Tahir, 2018; Chu, 2016).

Although there are several studies related to organisational knowledge management at the secondary school level (Rosnah et al., 2017), but there are still gaps in studies related to the concept of empirical management of organizational knowledge in the context of primary schools in Malaysia (Supermane & Tahir, 2018) especially for schools involved with the Transformation School Programme 2025 (TS25). Through this study, the perception of teachers who are experts in the field of education and pedagogy can be obtained to verify the most significant dimensions of organizational knowledge management in influencing the innovative behaviour of teachers' teaching in schools.

PROBLEM STATEMENT

To date, it is very clear that teachers in schools benefit a lot from organizational knowledge management practices (Omgie, Ikenwe, & Idhalama, 2019; Arunima, & Pakkeerappa, 2018; Cheng, 2017). Nevertheless, there are doubts about the competence of primary school teachers in managing knowledge (Valacherry, & Pakkeerappa, 2021; Supermane & Tahir, 2018). Even school teachers do not really show their interest in practicing the construction of knowledge and are hesitant to share knowledge because they fear the loss of ownership and privilege (Supermane & Tahir, 2018; Fullan, 2001). It is supported by Ministry of education (MoE) data showing that the continuous professional development of school-based teachers such as peer observation and teaching planning is low, around 16 percent nowadays (MoE, 2013-2025, p. 143). Moreover, academic staff view knowledge as a source of difference, and thus refuse to share all kinds of knowledge and experience (Al-Kurdi et al., 2020).

This shows that knowledge sharing is a fragile and risky process, even creating instability and dilemma for the individuals involved (Usmanova et al., 2020) especially in competitive workplaces where knowledge and knowledge are often considered as valuable assets of individuals, thus rejecting the sharing of information happening to other individuals (Hazril Izwar et al., 2020). In fact, some

teachers are reluctant to accept new knowledge from others because they think it will carry threats and burdens (Awang, Ismail, Flett, & Curry, 2011). The implication is that this culture hinders knowledge sharing among teachers and hinders the creation of new knowledge and can even undermine and hinder the efforts and aspirations of Ministry of education (MoE) to enhance school-based professional development activities. Therefore, researchers think it is necessary to implement this study which will look at the influence of headmaster's sustainable leadership on the teachers teaching innovative behaviour and organisational knowledge management as mediators in schools involved with the TS25 program.

RESEARCH QUESTIONS

- 1) Is there a significant influence between the headmasters' sustainable leadership with teachers' innovative work behaviour in primary school (TS25)?
- 2) Is there a significant influence between the headmasters' sustainable leadership with organizational knowledge management in primary school (TS25)?
- 3) Is there a significant influence between the organization's knowledge Management with teachers' innovative work behaviour in primary school (TS25)?
- 4) Is there any influence of the organization's knowledge management mediated on the relationship between headmasters' sustainable leadership and teachers' innovative work behaviour in primary school (TS25)?

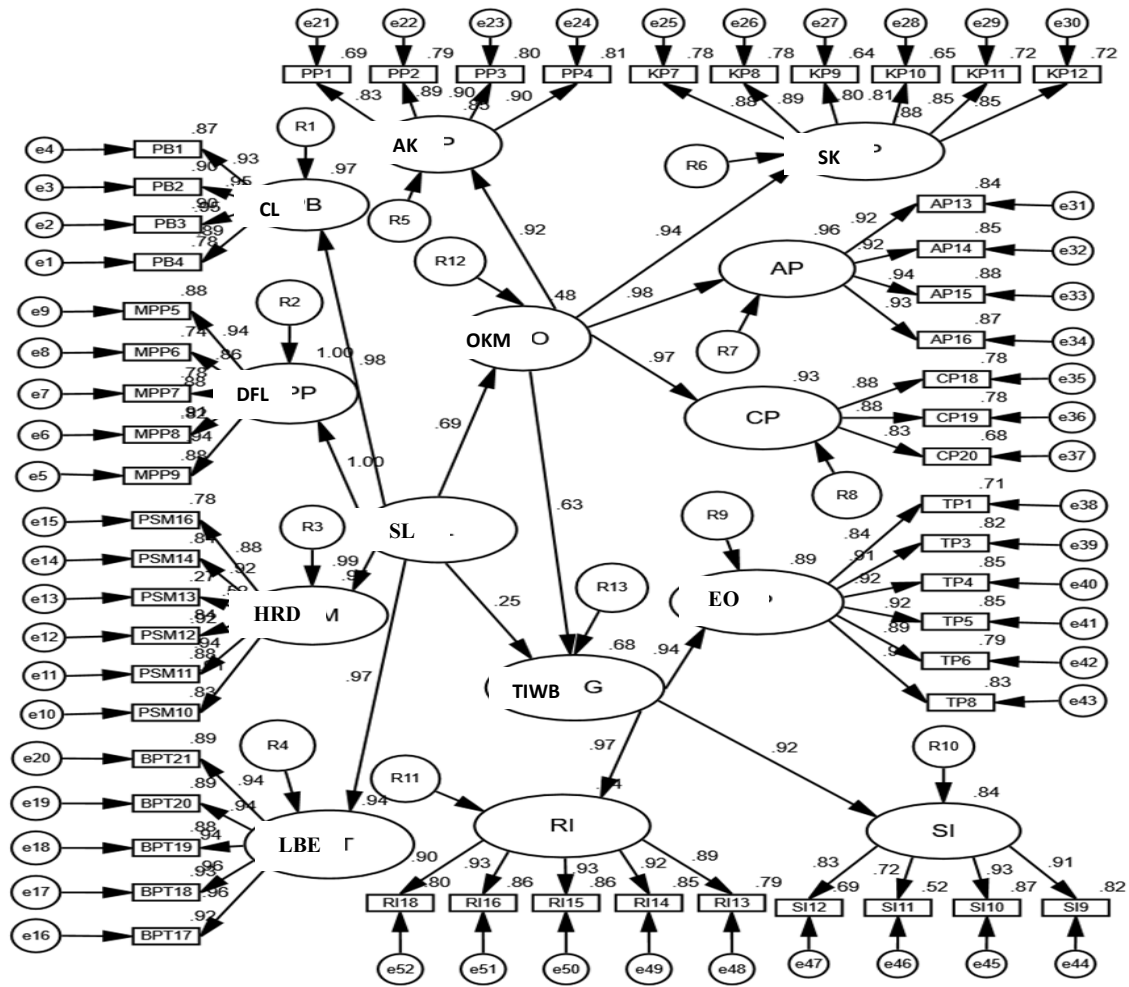
METHODOLOGY

The study used a cross-sectional research design where data was collected over a period of time (Sekaran & Bougie, 2016). Data for pilot studies and actual studies were obtained from primary school teachers (TS25) cohorts 1 to 3 in the state of Pahang. Simple random sampling was used to select respondents among the teachers involved. Pilot studies were conducted after the instruments were reviewed based on expert panel reviews and went through a pre-test process. A total of 150 respondents were involved thus meeting the minimum required sample size of 100 (Zainudin, 2015). The instruments used have been separated by Parts such as Part A of Respondent Information, Part B for the Headmasters' Sustainable Leadership, Part C for Organizational Knowledge Management and Part D for Teachers' Innovative Work Behaviour. Pilot study data was analysed with factor exploration analysis (EFA). An interval scale of 10 points between 1 (strongly disagree) to 10 (strongly agree) has been applied to the instrument.

This interval scale is recommended by Zainudin (2015) to ensure that the data obtained is more independent. The field survey managed to collect a total of 393 respondents' responses of which 318 answers were found to be valid and accepted for analysis. *Statistical Package for Social Science* (SPSS) and *Analysis of Moment Structures* (AMOS) were used to analyse the data. SPSS is used for data screening and factor exploration analysis (EFA) processes. While the complete analysis of structural equation modelling (SEM-AMOS) involves two types of analysis, namely the verification of the measurement model and the verification of the structural model (Kline, 2015). This study used a two-stage approach which is to carry out model measurements with Confirmatory Factor Analysis-CFA first to measure the unidimensionality, validity, and reliability of the questionnaire construct before testing the structural model proposed in this study (Zuraidah, 2018; Kline, 2015).

FINDINGS

Figure 1: Standard Path Coefficients between constructs



Chi-square=2869.205;
 DF=1261; p value (>.05)
 =.000 Relative Chi-Sq
 (<5.0) = 2.275
 TLI(>=.9) = .933
 CFI(>=.9) = .936
 RMSEA(<=.08) = .061

Sem Model Construct Validity Assessment

The match index in Figure 1 meets the specified threshold. The relative value of Chi-Sq meets the conditions set at 2.25 which is lower than the value of 5.0. The RMSEA index also shows a value of .06 showing a value lower than the threshold set at .08. The CFI (.94), IFI (.94), and TLI (.94) indices also showed higher values of .90. Researchers determined to achieve the fit model, the RMSEA (.06) values in the Absolute Fit category, the CFI (.94) and TLI (.94) values in the incremental fit category, and the relative value of Chi-Sq (2.25) in the parsimonious fit category are sufficient to achieve the corresponding index required for the fit model as shown in Table 1.

Table 1: Construct Validity of Structured Measurement Models

Category name	Threshold value	Value on the model	Results
<i>Absolute fit</i>	RMSEA \leq .08	.06	Accepted
<i>Incremental Fit</i>	CFI \geq .90	.94	Accepted
	BMW \geq .90	.94	
<i>Parsimonous Fit</i>	Chisq/df $<$ 5	2.25	Accepted

Assessment of Convergence Validity (AVE) and Construct Reliability (CR) model.

The Average Variance Extracted (AVE) value is used to evaluate Convergence Validity. The CR and AVE values of this model as shown in Table 1. This AVE value must be above .50 (Hair et al., 2019). The CR value must exceed the threshold of .60 to achieve reliability.

Table 2: AVE and CR Values for Combined Models

Construction	Item	Loading Factor	CR (Minimum 0.6)	AVE (Minimum 0.5)
Sustainable Leadership	Continuous Learning (CL)	.98	.99	.97
	Develop Future Leaders (DFL)	.99		
	Human Resource Development (HRD)	.97		
	Learn from the Best Experience (LBE)	.97		
Organizational Knowledge Management	Acquire Knowledge (AK)	.92	.97	.91
	Share Knowledge (SK)	.94		
	Application Knowledge (AK)	.98		
	Create Knowledge (CK)	.97		
Innovative Work Behaviour	Explore Opportunities (EI)	.94	.96	.89
	Socializes Idea (SI)	.92		
	Realises Idea (RI)	.97		

Table 2 shows the CR value of Sustainable Leadership at 0.99, Organizational Knowledge Management at .97 and Teachers' Innovative Work Behaviour at .96 above the required threshold at .60 (Hair et al., 2019). The AVE value for Sustainable Leadership is at .97, Organizational Knowledge Management at .91 and Teachers' Innovative Work Behaviour at .89 above the required threshold at .50. Thus, the analysis shows that the convergence validity and reliability of the model construct are obtained.

Assessment of Discriminatory Validity Between Constructs

Studies are necessary to assess the Validity of Discriminants between constructs to determine that there are no overlapping constructs inherent in the model. The overlap between constructs exists when there are two constructs that have a high correlation. The Discriminant value of the constructed model is shown in Table 3.

Table 3: Formulation of Discriminant Validity Index for Combined Models

Construction	Sustainable Leadership	Organizational Knowledge Management	Teacher's Innovative Behavior
Sustainable Leadership	.98		
Organizational Knowledge Management	.69	.95	
Teacher's Innovative Work Behaviour	.69	.80	.94

Table 3 shows the Discriminant Validity value achieved when the AVE square root value exceeds the correlation value between the constructs on the model. The square value of the Sustainable Leadership AVE (.98) exceeds the correlation value with Organizational Knowledge Management (.69) and Teachers' Innovative Work Behaviour (.69). The square value of the Organizational Knowledge Management AVE (.95) also exceeds its correlation value with Teachers' Innovative Work Behaviour at .80. Therefore, this model is said to meet the value of discriminant validity required for hypothetical testing.

Structured Equation Modelling assessment (SEM)

Next, the evaluation of the model of structured equations is carried out based on Figure 1. The value of the standard path coefficient, R^2 in Figure 1 is described in Table 4. The results from the findings showed that, as much as 48 percent of the overall value of the Organizational Knowledge Management variance was explained by the Headmaster's Sustainable Leadership. Meanwhile, as much as 68 percent of the overall value of the Teacher's Innovative Work Behaviour variance is explained by the Headmaster's Sustainable Leadership and Organizational Knowledge Management.

Table 4: Standard path coefficient and its implications in the study

Endogenous Construct	R^2	Conclusion
Organizational Knowledge Management	.48	Headmaster's Sustainable Leadership contributes 48 per cent to Organisational Knowledge Management.
Teacher's Innovative Work Behaviour	.68	Headmaster Sustainable Leadership and Organizational Knowledge Management contributed 68 percent to Teacher's Innovative Work Behaviour.

The output result of the regression path coefficient (Beta) to the effect on each independent construct on the leaning construct extracted from Figure 1 is shown in Table 5. The findings found that improving Sustainable Leadership by one unit would improve .69 Organizational Knowledge Management and .25 Teachers' Innovative Work Behaviour. Meanwhile, an increase of one unit in Organizational Knowledge Management will increase by .63 units of Teachers' Innovative Work Behaviour. The findings also showed a significant influence of Sustainable Leadership ($\beta = .25$, $p < .001$) and Organizational Knowledge Management ($\beta = .63$, $p < .001$) on Teacher's Innovative Work Behaviour. Sustainable Leadership ($\beta = 0.69$, $p < .001$) also showed a significant influence on Organizational Knowledge Management.

Table 5: Analysis of the Regression path Coefficient shown in Figure 1

Exogenous variables	Endogenous Variables	Beta	Description
Sustainable Leadership	Organizational Knowledge Management	.69	As Sustainable Leadership increase by a unit, Organizational Knowledge Management will increase by .69
Sustainable Leadership	Teacher's innovative work behaviour	.25	As Sustainable Leadership increase by a unit, Teacher's innovative work behaviour will increase by .25
Organizational Knowledge Management	Teacher's innovative work behaviour	.63	As Organizational Knowledge Management increases by a unit, Teacher's innovative work behaviour will increase by .63

The regression equation that can be achieved from this analysis is, Teacher's innovative work behaviour = .25 (Sustainable Leadership) + .63 (Organization Knowledge Management). This equation shows that the increased value of one unit of Teacher's innovative Behaviour is contributed by .25 Sustainable Leadership and .63 Organizational Knowledge Management. Analysis of the standard path coefficient between the latent construct and its significant value is shown in Table 6.

Table 6: Analysis of the standard regression path coefficient and its significant value

	Beta Value	Standard Error	Critical Value (C.R)	P	Results
OKM <--- SL	.69	.05	13.84	.001	Significant
TIWB <--- SL	.25	.05	5.38	.001	Significant
TIWB <--- OKM	.63	.06	10.44	.001	Significant

Table 6 shows that if Sustainable Leadership increases by one unit, Teachers' Innovative Work Behaviour will increase by .25 units. The estimated regression coefficient at .25 has a standard error value at .05. When the value of the regression coefficient is divided by the standard error value, $Z = .25/.05$, it is equal to 5.00 (CR). Therefore, the probability of getting a value of 5.00 in the absolute value is at a significant value of .001. Thus, the coefficient of sustainable leadership regression indicates that it predicts the innovative work behaviour of teachers to differ significantly from zero at the level of .05 (two-tailed). Since the significant value (p) is less than .05, then the first hypothesis is supported. In this study, Sustainable Leadership had a significant direct impact on Teachers' Innovative Work Behaviour.

The Sustainable Leadership Analysis of Organizational Knowledge Management shows that when the value of sustainable leadership increases by one unit, the organization's knowledge management will increase by .69. The estimated regression coefficient of Sustainable Leadership on Organizational Knowledge Management gives a Beta value of .69 and has a standard error value at .05. When the estimated value of the regression coefficient is divided by its standard error estimate of $Z = .69/.05$, it is equal to 13.8 which is the critical ratio value (CR). So, the probability of getting the value $Z = 13.8$ in the absolute value (absolute) is at .001.

In other words, the coefficient of regression of sustainable leadership when predicting the management of organizational knowledge is significantly different from zero at the level of .05 (two-tailed). Therefore, since the significant value (p) is smaller than .05, the second hypothesis is, Sustainable Leadership has a significant influence on Organizational Knowledge Management is supported. The study concludes that the headmasters' sustainable leadership has a significant direct impact on the management of organizational knowledge. Table 6 is also used to answer the third

hypothesis that the management of organizational knowledge has a significant influence on the teachers' innovative work behaviour. Table 7 shows that when the organization's knowledge management increases by one unit, then the teacher's innovative work behaviour will increase by .63 units.

The estimated regression coefficient at .63 has a standard error value of .06. When the value of the regression coefficient is divided by the standard error value, $Z = .63/.06$, it is equal to 10.5 (CR). The probability of getting the value $Z = 10.5$ in the absolute value is at .001. Thus, the regression coefficient of the organization's knowledge management indicates that it predicts the innovative behaviour of the teacher to differ significantly from zero at the level of .05 (two-tailed). Since the significant value (p) is less than .05, then the third hypothesis that is that the management of organizational knowledge has a significant influence on the teachers' innovative work behaviour is supported. The study concludes that the management of organizational knowledge has a significant direct impact on the teachers' innovative work behaviour. Table 7 summarizes the results of the first to third hypotheses of the studies.

Table 7: Findings of the first to third Hypothesis Study (H₁-H₃)

Hypothesis	Beta Value	P Value	Results
H ₁ : Sustainable Leadership significantly influences Teachers Innovative Work Behaviour	.69	.001	Significant
H ₂ : Sustainable Leadership Significantly Affects Organizational Knowledge Management	.25	.001	Significant
H ₃ : Organizational Knowledge Management significantly influences Teachers Innovative Work Behaviour	.63	.001	Significant

Mediator Test

This test was done to answer the hypothesis of the fourth study which is "Organizational Knowledge Management becomes a significant intermediary (mediator) in the relationship between the Headmaster's Sustainable Leadership Model and the Teachers Innovative Work Behaviour in TS25 schools". Testing of the Organizational Knowledge Management variable as a mediator in this model is carried out by the Bias corrected Bootstrapping method. It involves the calculation of standard errors in the calculation of p-values and confidence intervals from the repetitive sampling process with substitution from data (Shrout & Bolger, 2002). Through the Bootstrapping test, the re-sampling procedure is performed to estimate the statistical distribution based on independent observation. The basic idea to this method is that it allows researchers to build sub-samples from existing databases (Byrne, 2001). Bootstrapping is performed using the re-sampling size at n=5000 (Hayes et al., 2011) with a bias correction value at 95%.

Table 8: Bootstrapping Procedure Results in testing intermediaries in models

Hypothetical path	Beta	p	95% Bootstrap BC CI	
			LB	UB
Direct effects of the Model SL → TIWB	.25	.35		
Indirect Impressions of SL → OKM → TIWB	.44	.01	.17	.78

Based on Table 8, the results of the Bootstrapping test show that the indirect effect of the pathway between Sustainable Leadership and Teachers' Innovative Work Behaviour through Organizational Knowledge Management is significant ($p < 0.05$) and bias correction at 95% confidence intervals has no zero value. However, the test results on the direct impact of Sustainable Leadership on Teacher's Innovative Work Behaviour were found to be insignificant ($p > 0.05$). Due to this, the direct impact of the pathway is insignificant and the indirect impact is significant, so the Organizational Knowledge Management acts as a full intermediary between Sustainable Leadership and Teachers Innovative work Behaviour. Through the results of this analysis, the fourth hypothesis is fully supported in this study, as stated in Table 9.

Table 9: Findings of the Fourth Hypothesis Study (H₄)

Hypothesis	Results	Types of Mediators
H ₄ : Organizational Knowledge Management mediates between Sustainable Leadership and Teachers Innovative Work Behaviour.	Significant (intermediate effect exists)	Full mediator

CONCLUSION

In total, four hypotheses were developed in this study. The findings of this study have confirmed that Sustainable Leadership has a significant influence on organisational knowledge management (.69) and teachers' innovative work behaviours (.25) in schools (H₁ and H₂). Organizational Knowledge Management also has a significant influence on the teachers' innovative work behaviour in schools (.63) (H₃). The fourth hypothesis shows Organizational Knowledge Management to be a full mediator to the relationship between the headmasters' sustainable leadership and the teacher's innovative work behaviour through the results of the bootstrapping tests carried out with the direct effect is at .44 ($p < .05$) (H₄).

REFERENCES

- Abbas, J. (2020). Impact of total quality management on corporate sustainability through the mediating effect of knowledge management. *Journal of Cleaner Production*, 244, 118-128.
- Al-Kurdi, O. F., El-Haddadeh, R. & Eldabi, T. (2020). The role of organisational climate in managing knowledge sharing among academics in higher education. *International Journal of Information Management*, 50, 217-227. <https://doi.org/10.1016/j.ijinfomgt.2019.05.018>
- Arunima, K. V., & Pakkeerappa, P. (2018). Knowledge Management in Secondary Education: A Study on Perception of School Teachers in India. *Pacific Business Review International*, 11(1), 109-118.
- Awang, M., Ismail, R., Flett, P., & Curry, A. (2011). Knowledge management in Malaysian school education: do the smart schools do it better?. *Quality Assurance in Education*, 19(3), 263-282.
- Azhar Harun, Abdul Ghani Sani, Indra Shahril Sayuati & Kasmah Abdullah. (2020). Kesiediaan amalan kepimpinan guru di sebuah sekolah rendah di bawah program transformasi sekolah 2025 (ts25) zon sabah. *Jurnal Pengurusan dan Kepimpinan Kebangsaan*, 32, 1-24. <https://iab.moe.edu.my/index.php/ms/jurnal-iab>
- Azman Safii. (2017, May 5). Transformation School 2025 (TS25). *Journal of Leadership*. <http://www.jprisma.com/v1/index.php/program/sekolah-transformasi-2025>
- Battistelli, A., Odoardi, C., Vandenberghe, C., Di Napoli, G. & Piccione, L. (2019). Information sharing and innovative work behavior: The role of work-based learning, challenging tasks, and organizational commitment. *Human Resource Development Quarterly*, 1-21. <https://doi.org/10.1002/hrdq.21344>
- Byrne, B.M. (2001). *Structural Equation Modelling with AMOS: Basic Concepts, Applications and Programming*. Mahwah, NJ: Erlbaum.

- Cheng E.C.K. (2015). *A Knowledge Management Model for School Development*. In: Knowledge Management for School Education. Springer Briefs in Education. Springer, Singapore. https://doi.org/10.1007/978-981-287-233-3_7
- Cheng, E.C.K. (2017). Knowledge management strategies for capitalizing on school knowledge. *VINE Journal of Information and Knowledge Management Systems*, 47(1), pp.94-109. <https://doi.org/10.1108/VJKMS-08-2016-0045>
- Chu, K.W., (2016). Leading knowledge management in a secondary school. *Journal of Knowledge Management*, 20(5), pp.1104-1147. <https://doi.org/10.1108/JKM-10-2015-0390>
- Davenport, T. & Prusak, L. (2000). *Working knowledge: How organization management what they know*. Harvard Business School Press.
- Fullan, M. (2001). *The New Meaning of Educational Change (3rd ed.)*. Teachers College Press, New York.
- Hargreaves, A. & Fink, D. (2006). *Sustainable Leadership*. New jersey, USA: John Wiley & Sons.
- Hatch, N. W., & Dyer, J. H. (2004). Human capital and learning as a source of sustainable competitive advantage. *Strategic management journal*, 25(12), 1155-1178.
- Hayes, A. F., Preacher, K. J., & Myers, T. A. (2011). Mediation and the estimation of indirect effects in political communication research. *Sourcebook for political communication research: Methods, measures, and analytical techniques*, 23(1), 434-65.
- Hazril Izwar Ibrahim, Wan Maisara Wan Mohamad & Khairul Anuar Mohammad Shah. (2020). Investigating Information and Communication Technology (ICT) Usage, Knowledge Sharing and Innovative Behavior among Engineers in Electrical and Electronic MNCs in Malaysia. *Jurnal Pengurusan*, 58, 133-143. <https://doi.org/10.17576/pengurusan-2020-58-11>
- Kim, M., Koo, D.-W., & Han, H.-S. (2021). Innovative behavior motivations among frontline employees: The mediating role of knowledge management. *International Journal of Hospitality Management*, 99, 103062. <https://doi.org/10.1016/j.ijhm.2021.103062>
- Kline, R.B. (2015). *Principles and Practice of Structural Equation Modeling (4th ed.)*. New York, USA: Guilford Press.
- Messmann, G. Mulder, R.H., & Palonen, T. (2018). Vocational education teachers' personal network at school as a resource for innovative work behaviour. *Journal of Workplace Learning*, 30(3),174-185. <https://doi.org/10.1108/JWL-08-2017-0069>
- Messmann, G., Stoffers, J., van der Heijden, B. & Mulder, R. (2017). Joint effects of job demands and job resources on vocational teachers' innovative work behaviour. *Personnel Review*, 46(8), 1948-1961. <https://doi.org/10.1108/PR-03-2016-0053>
- Messmann, G. & Mulder, R.H. (2014). Exploring the role of target specificity in the facilitation of vocational teachers' innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 87(1),80–101. <https://doi.org/10.1111/joop.12035>
- Messmann, G. & Mulder, R. H. (2010). Innovative Work Behaviour in Vocational Colleges: Understanding How and Why Innovations Are Developed. *Journal of Vocations and Learning*, 4(1), 63–84. <https://doi.org/10.1007/s12186-010-9049-y>
- Ministry of Education Malaysia. (2013). *Malaysian Education Development Plan (2013-2025)*. <https://www.moe.gov.my/index.php/muat-turun/penerbitan-dan-jurnal/1818-pelan-pembangunan-pendidikan-2013-2025/file>
- Omigie, C. A., Ikenwe, I. J., & Idhalama, O. U. (2019). The role of knowledge management for education in Nigeria. *International Multidisciplinary Research Journal*, 9(1), 20-23. <http://10.25081/imrj.2019.v9.5496>
- Palazzeschi, L., Bucci, O., & Di Fabio, A. (2018). Re-Thinking Innovation In Organizations In The Industry 4.0 Scenario: New Challenges In A Primary Prevention Perspective. *Frontiers in Psychology*, 9(30),1-6. <https://doi.org/10.3389/fpsyg.2018.00030>
- Park, S. & Kim, E.-J. (2018). Fostering organizational learning through leadership and knowledge sharing. *Journal of Knowledge Management*, 22 (6), 1408–1423. <https://doi.org/10.1108/JKM-10-2017-0467>
- Payal, R., Ahmed, S., & Debnath, R.M. (2016). Knowledge management and organizational performance: a study in the context of Indian software companies. *IUP Journal of Knowledge Management*, 14(4).
- Rosnah Ishak, Ghani, M. F. A., & Saedah Siraj. (2017). Leadership practices of learning organisations in Malaysia's high-performing schools. *JuPiDi: Journal of Educational Leadership*, 1(2), 1-12.
- Sekaran, U., & Bougie, R. (2010). *Research method for business: a skill building approach (5th ed.)*. New Jersey, USA: Wiley Publishing.
- Sana Rehman, Abdul Sami, Aniq Haroon & Asmara Irfan. (2019). Impact Of Sustainable Leadership Practices on Public Sector Organizations: A Systematic Review of Past Decade. *Journal of Public Value and Administration Insights*, 2(3), 1-5. <https://doi.org/10.31580/jpvai.v2i3.927>

- Schuckert, M., Kim, T.T., Paek, S. & Lee, G. (2018). Motivate To Innovate: How Authentic and Transformational Leaders Influence Employees' Psychological Capital and Service Innovation Behavior. *International Journal of Contemporary Hospitality Management*, 30, 776-796. <https://doi.org/10.1108/IJCHM-05-2016-0282>
- Solana, S. & Rosa M.E. (2020). Innovative Work Behavior: Development and Validation of a Scale for Teachers. *Acta De Investigación Psicológica*, 10 (3),112-125. <https://doi.org/10.22201/fpsi.20074719e.2020.3.363>
- Supermane, S., & Tahir, L.M., (2018). An overview of knowledge management practice among teachers. *Global Knowledge, Memory and Communication*, 67(8), 616-631. <https://doi.org/10.1108/GKMC-08-2017-0065>
- Tahir Noaman Abdullatif, Husna Johari & Zurina Adnan. (2016). The Impact of Psychological Empowerment on Innovative Work Behavior Moderating by Quality Culture. *European Journal of Business and Management*, 8,1905-1925. <https://doi.org/10.26710/jbsee.v2i1.21>
- Thurlings, M., Evers, A. T. & Vermeulen, M. (2015). Toward a Model of Explaining Teachers' Innovative Behavior. *Review of Educational Research*, 85, 430–471. <https://doi.org/10.3102/0034654314557949>
- Usmanova, N., Yang, J., Sumarliah, E., Khan, S.U. & Khan, S.Z. (2020). Impact Of Knowledge Sharing On Job Satisfaction And Innovative Work Behavior: The Moderating Role Of Motivating Language. *VINE Journal of Information and Knowledge Management Systems*, 51(3), 515-532. <https://doi.org/10.1108/VJKMS-11-2019-0177>
- Valacherry, A. K., & Pakkeerappa, P. (2021). Knowledge Management and Academic Performance in Indian Public Schools. *Electronic Journal of Knowledge Management*, 19(1), 76-88. <https://doi.org/10.34190/ejkm.19.1.2343>
- Widodo, W., & Irvandi Gustari. (2020). Teacher's Innovative Behavior in Indonesian School: The Role of Knowledge Management, Creativity and OCB. *Universal Journal of Educational Research*, 8, 4784-4791. <https://doi.org/10.13189/ujer.2020.081050>
- World Economic Forum. (2020, January 14). *Schools of the Future Defining New Models of Education for the Fourth Industrial Revolution*. Dicapai daripada http://www3.weforum.org/docs/WEF_Schools_of_the_Future_Report_2019.pdf
- Zainudin Awang. (2015). Postgraduate Research Proposal: A Step by Step Guide In Writing Proposals For Postgraduate Students (1st ed). MPWS Rich Publication Sdn Bhd.
- Zuraidah Zainol. (2018). *Structural Equation Modeling Using AMOS; A Step By Step Approach*. Kuala Lumpur, Malaysia.