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The Validity and Reliability Constructs of The Headmaster Leadership Style, Teacher Management Motivation and Standard1 Assessment MEQSw2 of Management Terengganu National Schools

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Abstract

The National Education Goal is a strong vision towards achieving the national education vision based on our country's National Education Philosophy. It plays an important role in efforts to produce first-class human capital which will then be able to increase the economy of the people with high incomes by 2020 (Yahya Don, 2012). Education requires a process of change that can develop the country and its children in the future. Effective and quality education will help produce a new generation who understand the meaning of life and responsibility. Such new young people will strive to develop their talents and potential towards building a better life, whether through themselves, family, race, religion, or country (Yahya Don, 2012; Najeemah Mohd Yusof, 2012). This study was conducted to develop and validate an instrument based on the Exploratory Factor Analysis (EFA) process for measuring the Headmaster Leadership Style (based on Transformational Leadership, Transactional Leadership, Laisez_Faire Leadership), Teacher Management Motivation and Malaysian Education Quality Standards (MEQS) Wave 2 (MEQSw2) among the Management of Terengganu National Schools. This study uses quantitative research methods based on Structural Equation Modeling (SEM) to analyze various relationships between variables in the study model. Before the data is analyzed using SEM, EFA is carried out to identify the appropriateness of the items used in the research instrument. This study describes in detail the procedure of conducting EFA analysis for each construct. The findings of this study show validity values based on Kaiser-Meyer-Olkin (KMO), Total Variance Explained (TVE), Factor Loading (FL) and reliability values based on Cronbach's Alpha (CA), have met all the required values.

Keywords: Exploratory Factor Analysis (EFA), Validity, Total Variance Explained, Factor Loading, Reliability

Introduction

The MOE's goal is to develop a self-improvement maintenance system that is capable of sparking innovation and increasing higher achievement. The Ministry has revised the Malaysian Education Quality Standards (MEQS) self-assessment instrument to enable school assessment to be more holistic. Therefore, it is branded as the Malaysian Education Quality Standards (MEQS) Wave 2 (MEQSw2). The MEQSw2 instrument has been improved and this will enable school leadership to carry out continuous improvements to improve school performance. The instrument used combines various existing assessment instruments to avoid overlap in assessment, thus increasing efficiency. In this regard, this concept paper was written to identify the influence of principal leadership style and teacher management motivation on standard 1 of the MEQSw2 assessment based on past literature studies. Problems that occur among administrators and teachers in schools often stem from the selection of leadership styles that are not suitable for practice and practicality by principals and headmasters in schools, thus hindering the achievement of the mission and vision achieved. According to Shahrin (2019), issues that exist between administrators and teachers in schools can be overcome by the principal or headmaster practicing a leadership style that is appropriate according to the locality. An individual appointed as a principal or headmaster of a school should be competent to deal with the changes that are constantly occurring in the flow of education and be able to use creative and diverse approaches to ensure an effective school environment (Mohammad Sani, 2013).

The leadership style of a leader has a direct impact on the feelings and thoughts of his followers. This effect can be seen through the attitude shown by followers who work hard with sincerity without expecting excessive rewards from the leader. Therefore, principals and head teachers should be able to create an effective school environment and a fun work culture among teachers and ultimately succeed in creating a quality school (Shahrin, 2019). A teacher will carry out the assigned tasks wholeheartedly, and even give a very high commitment when in the school environment as expected and subsequently lead to the excellence of the school organization. In determining the effectiveness and success of a school, the leadership of the head teacher is always the main focus of the community. We cannot escape the fact that parents place high trust in a school if they have high trust in the leadership of the head teacher. We are aware that there are various other elements that also contribute to the success of a school. The purpose of this research is to identify the influence of Headmaster Leadership Style (based on Transformational Leadership, Transactional Leadership, Laisez_Faire Leadership) and Teacher Management Motivation on Standard1 Assessment MEQSw2 of Management Terengganu National Schools.

Explortory Factor Analysis (EFA)

EFA is conducted to identify some components that exist in the set of questionnaires that have been formed. EFA is a statistical technique that transforms a set of original construct data linearly into a set of smaller constructs that can give a comprehensive picture of all the information contained in the original construct (Duntemen, 1989). The purpose of EFA is to reduce the dimensions of the original data to several smaller components that can be interpreted more easily and meaningfully (Duntemen, 1989; Lewis-Beck, 1994 & Field, 2006). According to Tabachnick and Fidell (2007), EFA needs to go through several stages. The first stage calculates the correlation matrix between all the factor-analyzed constructs. The next stage involves extracting some factors from the correlation matrix and determining the number of factors formed. The rotation of the factors is done to improve the interpretation so that the factors are more meaningful and can be interpreted. The final and most important stage in factor analysis is to interpret the results of the factors obtained and give an appropriate name to each factor.

This study uses items in an instrument that has been built by the researcher himself. According to Chik and Abdullah (2018), Chik, Abdullah, Ismail and Mohd Noor (2024), Awang (2012) and Hoque et al. (2017), if a researcher adapts an item that has been built by a previous researcher or builds a new item in the instrument or modifies the statement to fit the current study, then they need to re-run the EFA (Exploratory Factor Analysis) procedure. This is because the current study area may be different from previous studies, or the current study population is much different from previous studies in terms of socio-economic status, race and culture. Therefore, there may be some items that were built before, no longer suitable for the current study or there may also be a different item structure in the current study compared to the structure in the previous study. Thus, researchers need to recalculate the Internal Reliability value for the current instrument, which is the new Alpha Cronbach value (Chik et al., 2024, Awang, 2012; Hoque et al., 2017).

Findings

Exploratory Factor Analysis (EFA) for Headmaster Leadership Style Based on Transformational Leadership

The Headmaster Leadership Style based on Transformational Leadership which uses as many as 10 items and is labeled as KT1 to KT10. Next, the use of an interval scale for the measurement of items is between one (1) to 10. Principal Component Analysis (PCA) in the EFA process using varimax rotation for the Headmaster Leadership Style based on Transformational Leadership for the measurement of 10 items. Table 1 below shows the Bartlett's test results that are significant for P values less than 0.05 ($P < 0.05$). Next, the value for the measurement of sampling adequacy from Kaiser-Meyer-Olkin (KMO) is 0.837. The value obtained has exceeded the minimum limit value of 0.6 and the achievement of both of these tests (Bartlet's test is significant and KMO value > 0.6), showing that the data used in this study is appropriate according to the EFA procedure (Chik et al., 2024; Hoque et al., 2017; Awang, 2012).

Table 1: KMO Values and Bartlet's Test for Headmaster Leadership Style Based on Transformational Leadership

KMO and Bartlett's Test		
iser-Meyer-Olkin Measure of Sa	mpling Adeq	0.837
Bartlett's Test of Sphericity	Approx. Chi-Squar	e 526.037
	df	45
		0.000

Total Variance Explained (TVE) is important for researchers to know what percentage of the items used can measure a research construct. Reading from Table 2 below found that Headmaster Leadership Style based on Transformational Leadership measured using 10 items in one (1) component can measure Headmaster Leadership Style based on

Transformational Leadership as much as 79.932%. This value is sufficient because it exceeds the minimum requirement of 60% (Chik et al., 2024; Hoque et al., 2017).

Table 2: Total Variance Explained for Headmaster Leadership Style Based on Transformational Leadership

Component	Extraction Sums of Squared Loadings		
	Tota	% of Variance	Cumulative %
1	3.993	79.932	79.932

Thus, the researcher wants to know the selected items to measure the component. Table 3 below shows the distribution of items accepted to measure Headmaster Leadership Style based on Transformational Leadership. All items have a factor loading value exceeding the minimum limit of 0.6 and items that are less than 0.6 should be discarded because they do not contribute to the measurement of the construct (Chik et al., 2024).

Table 3: Factor Loading for One (1) Component Headmaster Leadership Style Based on Transformational

Component Matrix[a]	
Items	Component
KT1	0.796
KT2	0.810
KT3	0.881
KT4	0.798
KT5	0.812
KT6	0.803
KT7	0.810
KT8	0.7
KT9	0.8
KT10	0.8

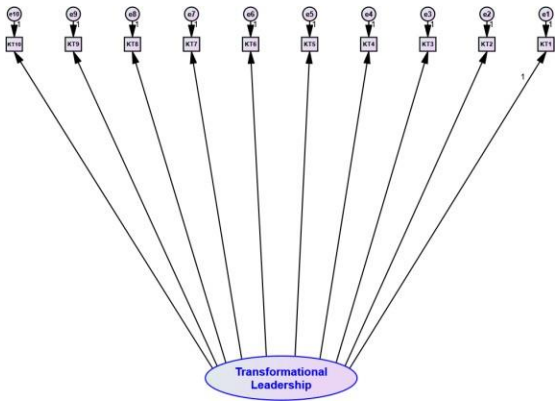

Figure 1: Position of Components and Items for Headmaster Leadership Style Based on Transformational Leadership (Before and After EFA)

Another piece of information that researchers need to report is the reliability value of the items that have been built to measure that construct. The measure of instrument reliability is estimated through Cronbach's Alpha value that exceeds the minimum limit of 0.7 to be adopted in the study. Table 4 below shows the Cronbach's Alpha value for each item in the Headmaster Leadership Style based on Transformational Leadership that exceeds 0.7 and can be used in this study (Chik et al., 2024).

Table 4: Cronbach's Alpha Value for Each Item in the Headmaster Leadership Style Based on Transformational

Component	Number of Items	Cronbach's Alpl
1	10	0.761

Exploratory Factor Analysis (EFA) for Headmaster Leadership Style Based on Transactional Leadership

The Headmaster Leadership Style based on Transactional Leadership which uses as many as 10 items and is labeled as KS1 to KS10. Next, the use of an interval scale for the measurement of items is between one (1) to 10. Principal Component Analysis (PCA) in the EFA process using varimax rotation for the Headmaster Leadership Style based on Transactional Leadership for the measurement of 10 items. Table 5 below shows the Bartlett's test results that are significant for P values less than 0.05 ($P < 0.05$). Next, the value for the measurement of sampling adequacy from Kaiser-Meyer-Olkin (KMO) is 0.950. The value obtained has exceeded the minimum limit value of 0.6 and the achievement of both of these tests (Bartlet's test is significant and KMO value > 0.6), showing that the data used in this study is appropriate according to the EFA procedure (Chik et al., 2024; Hoque et al., 2017; Awang, 2012).

Table 5: KMO Values and Bartlet's Test for Headmaster Leadership Style Based on

Transactional Leadership

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin	mpling Adequa	0.950
asure of Sa		
	Approx. Chi-Squa e	1227.59
	4	
Bartlett's Test of Sphericity	df	45
	Si	0.000

Total Variance Explained (TVE) is important for researchers to know what percentage of the items used can measure a research construct. Reading from Table 6 below found that Headmaster Leadership Style based on Transactional Leadership measured using 10 items in one (1) component can measure Headmaster Leadership Style based on Transactional Leadership as much as 75.970%. This value is sufficient because it exceeds the minimum requirement of 60% (Chik et al., 2024; Hoque et al., 2017).

Table 6: Total Variance Explained for Headmaster Leadership Style Based on Transactional Leadership

Component	Extraction Sums of Squared Loadin		
	Tota	% of Variance	Cumulative %
1	7.597	75.970	75.970

Thus, the researcher wants to know the selected items to measure the component. Table 7 below shows the distribution of items accepted to measure Headmaster Leadership Style based on Transactional Leadership. All items have a factor loading value exceeding the minimum limit of 0.6 and items that are less than 0.6 should be discarded because they do not contribute to the measurement of the construct (Chik et al., 2024).

Table 7: Factor Loading for One (1) Component Headmaster Leadership Style Based on Transactional Leadership

Component Matrix[a]	
Items	Component
KS1	0.883
KS2	0.946
KS3	0.923
KS4	0.929
KS5	0.847
KS6	0.882
KS7	0.822
KS8	0.941
KS9	0.944
KS10	0.950

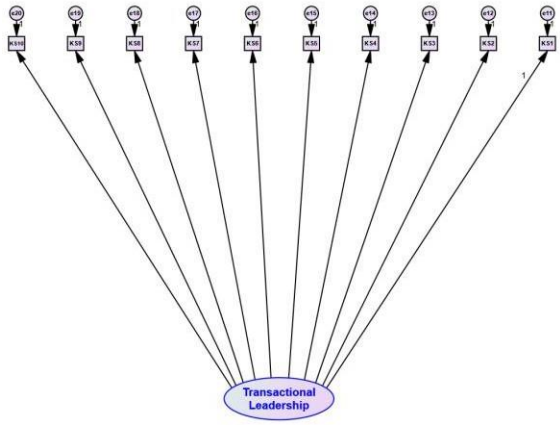

Figure 2: Position of Components and Items for Headmaster Leadership Style Based on Transactional Leadership (Before and After EFA)

Another piece of information that researchers need to report is the reliability value of the items that have been built to measure that construct. The measure of instrument reliability is estimated through Cronbach's Alpha value that exceeds the minimum limit of 0.7 to be adopted in the study. Table 8 below shows the Cronbach's Alpha value for each item in the Headmaster Leadership Style based on Transactional Leadership that exceeds 0.7 and can be used in this study (Chik et al., 2024; Hoque et al., 2017).

Table 8: Cronbach's Alpha Value for Each Item in the Headmaster Leadership Style Based on Transactional Leadership

Component	Number of Items	Cronbach's Alpl
1	10	0.909

Exploratory Factor Analysis (EFA) for Headmaster Leadership Style Based on Laisez_Faire Leadership

The Headmaster Leadership Style based on Laisez_Faire Leadership which uses as many as 10 items and is labeled as KL1 to KL10. Next, the use of an interval scale for the measurement of items is between one (1) to 10. Principal Component Analysis (PCA) in the EFA process using varimax rotation for the Headmaster Leadership Style based on Laisez_Faire Leadership for the measurement of 10 items. Table 9 below shows the Bartlett's test results that are significant for P values less than 0.05 ($P < 0.05$). Next, the value for the measurement of sampling adequacy from Kaiser-Meyer-Olkin (KMO) is 0.804. The value obtained has exceeded the minimum limit value of 0.6 and the achievement of both of these tests (Bartlet's test is significant and KMO value > 0.6), showing that the data used in this study is appropriate according to the EFA procedure (Chik et al., 2024; Hoque et al., 2017; Awang, 2012).

Table 9: KMO Values and Bartlet's Test for Headmaster Leadership Style Based on Laisez_Faire Leadership

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sa	mpling Adequa	0.804
Bartlett's Test of Sphericity	Approx. Chi-Squar e	583.46
	df	45
	Sig	0.000

Total Variance Explained (TVE) is important for researchers to know what percentage of the items used can measure a research construct. Reading from Table 10 below found that Headmaster Leadership Style based on Laisez_Faire Leadership measured using 10 items in one (1) component can measure Headmaster Leadership Style based on Laisez_Faire Leadership as much as 87.758%. This value is sufficient because it exceeds the minimum requirement of 60% (Chik et al., 2024; Hoque et al., 2017).

Table 10: Total Variance Explained for Headmaster Leadership Style Based on Laisez_Faire Leadership

Component	Extraction Sums of Squared Loading		
	Total	% of Variance	Cumulative %
1	8.776	87.758	87.758

Thus, the researcher wants to know the selected items to measure the component. Table 11 below shows the distribution of items accepted to measure Headmaster Leadership Style based on Laisez_Faire Leadership. All items have a factor loading value exceeding the minimum limit of 0.6 and items that are less than 0.6 should be discarded because they do not contribute to the measurement of the construct (Chik et al., 2024).

Table 11: Factor Loading for One (1) Component Headmaster Leadership Style Based on Laisez_Faire Leadership

Component Matrix[a]	
Items	Component
KL1	0.831
KL2	0.838
KL3	0.829
KL4	0.891
KL5	0.864
KL6	0.768
KL7	0.770
KL8	0.788
KL9	0.811
KL10	0.785

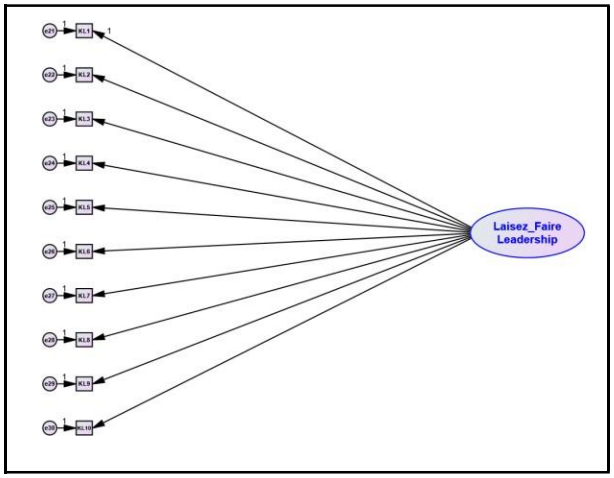

Figure 3: Position of Components and Items for Headmaster Leadership Style Based on Laisez_Faire Leadership (Before and After EFA)

Another piece of information that researchers need to report is the reliability value of the items that have been built to measure that construct. The measure of instrument reliability is estimated through Cronbach's Alpha value that exceeds the minimum limit of 0.7 to be adopted in the study. Table 12 below shows the Cronbach's Alpha value for each item in the Headmaster Leadership Style based on Laisez_Faire Leadership that exceeds 0.7 and can be used in this study (Chik et al., 2024).

Table 12: Cronbach's Alpha Value for Each Item in the Headmaster Leadership Style Based on Laisez_Faire Leadership

Component	Number of Items	Cronbach's Alpl
1	10	0.823

Exploratory Factor Analysis (EFA) for Teacher Management Motivation

The Teacher Management Motivation which uses as many as 20 items and is labeled as MD1 to MD10 and ML1 to ML10. Next, the use of an interval scale for the measurement of items is between one

(1) to 10. Principal Component Analysis (PCA) in the EFA process using varimax rotation for the Teacher Management Motivation for the measurement of 20 items. Table 13 below shows the Bartlett's test results that are significant for P values less than 0.05 ($P < 0.05$). Next, the value for the measurement of sampling adequacy from Kaiser-Meyer-Olkin (KMO) is 0.808. The value obtained has exceeded the minimum limit value of 0.6 and the achievement of both of these tests (Bartlet's test is significant and

KMO value > 0.6), showing that the data used in this study is appropriate according to the EFA procedure (Chik et al., 2024; Hoque et al., 2017; Awang, 2012).

Table 13: KMO Values and Bartlet's Test for Teacher Management Motivation

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin asure of Sa	mpling Adequa	0.808
	Approx. Chi-Squar e	568.79

Bartlett's Test of Sphericity	df	190
	Si	0.000

Table 14 below found that Teacher Management Motivation measured using 20 items in one (1) component can measure Teacher Management Motivation as much as 86.426%. This value is sufficient because it exceeds the minimum requirement of 60% (Chik et al., 2024; Hoque et al., 2017).

Table 14: Total Variance Explained for Teacher Management Motivation

Component	Extraction Sums of Squared Loading		
	Tota	% of Variance	Cumulative %
1	7.583	72.914	72.914
2	6.285	86.426	86.426

Thus, the researcher wants to know the selected items to measure the component. Table 15 below shows the distribution of items accepted to measure Teacher Management Motivation. All items have a factor loading value exceeding the minimum limit of 0.6 and items that are less than 0.6 should be discarded because they do not contribute to the measurement of the construct (Chik et al., 2024).

Table 15: Factor Loading for One (1) Component Teacher Management Motivation

Component Matrix[a]

Items	Component	
MD1		0.778
MD2		0.812
MD3		0.891
MD4		0.855
MD5		0.811
MD6		0.799
MD7		0.793
MD8		0.814
MD9		0.894
MD10		0.815
ML1	0.799	
ML2	0.789	
ML3	0.787	
ML4	0.760	
ML5	0.751	
ML6	0.773	
ML7	0.765	
ML8	0.776	
ML9	0.811	
ML10	0.797	

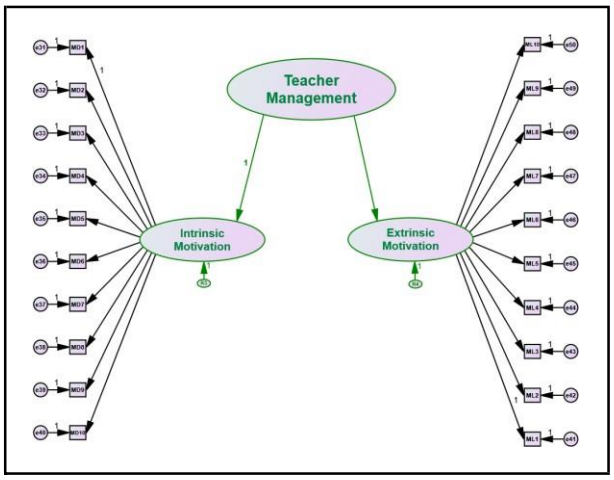

Figure 4: Position of Components and Items for Teacher Management Motivation (Before and After EFA)

Another piece of information that researchers need to report is the reliability value of the items that have been built to measure that construct. The measure of instrument reliability is estimated through Cronbach's Alpha value that exceeds the minimum limit of 0.7 to be adopted in the study. Table 16 below shows the Cronbach's Alpha value for each item in the Teacher Management Motivation that exceeds 0.7 and can be used in this study (Chik et al., 2024).

Table 16: Cronbach's Alpha Value for Each Item in the Teacher Management Motivation

Component	Number of Items	Cronbach's Alpl
1	10	0.871
2	10	0.824
Total	20	0.843

Exploratory Factor Analysis (EFA) for Standard1 Assessment MEQSw2

The Standard1 Assessment MEQSw2 which uses as many as 10 items and is labeled as PS1 to PS10. Next, the use of an interval scale for the measurement of items is between one (1) to 10. Principal Component Analysis (PCA) in the EFA process using varimax rotation for the Standard1 Assessment MEQSw2 for the measurement of 10 items. Table 17 below shows the Bartlett's test results that are significant for P values less than 0.05 ($P < 0.05$). Next, the value for the measurement of sampling adequacy from Kaiser-Meyer-Olkin (KMO) is 0.928. The value obtained has exceeded the minimum limit value of 0.6 and the achievement of both of these tests (Bartlet's test is significant and KMO value > 0.6), showing that the data used in this study is appropriate according to the EFA procedure (Chik et al., 2024; Hoque et al., 2017; Awang, 2012).

Table 17: KMO Values and Bartlet's Test for Standard1 Assessment MEQSw2

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin mpling Adequa asure of Sa		0.928
Bartlett's Test of Sphericity	Approx. Chi-Squa e	1176.45
	1	
	df	45
	Si	0.000

Total Variance Explained (TVE) is important for researchers to know what percentage of

the items used can measure a research construct. Reading from Table 18 below found that Standard1 Assessment MEQSw2 measured using 10 items in one (1) component can measure Standard. Assessment MEQSw2 as much as 77.164%. This value is sufficient because it exceeds the minimum requirement of 60% (Chik et al., 2024; Hoque et al., 2017).

Table 18: Total Variance Explained for Standard1 Assessment MEQSw2

Component	Extraction Sums of Squared Loading		
	Tota	% of Variance	Cumulative %
1	7.716	77.164	77.164

Thus, the researcher wants to know the selected items to measure the component. Table 19 below shows the distribution of items accepted to measure Standard1 Assessment MEQSw2. All items have a factor loading value exceeding the minimum limit of 0.6 and items that are less than 0.6 should be discarded because they do not contribute to the measurement of the construct (Chik et al., 2024).

Table 19: Factor Loading for One (1) Component Standard1 Assessment MEQSw2

Component Matrix[a]	
Items	Component
PS1	0.711
PS2	0.894
PS3	0.865
PS4	0.941
PS5	0.826
PS6	0.930
PS7	0.897
PS8	0.910
PS9	0.898
PS10	0.889

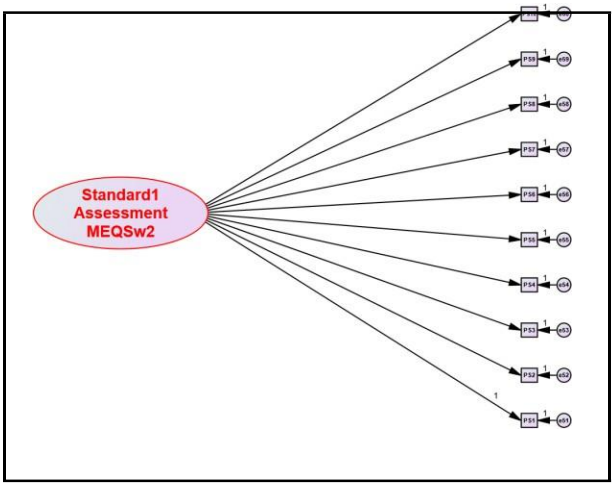

Figure 5: Position of Components and Items for Standard1 Assessment MEQSw2 (Before and After EFA)

Another piece of information that researchers need to report is the reliability value of the items that have been built to measure that construct. The measure of instrument reliability is estimated through Cronbach's Alpha value that exceeds the minimum limit of 0.7 to be adopted in

the study. Table 20 below shows the Cronbach's Alpha value for each item in the Standard1 Assessment MEQSw2 that exceeds 0.7 and can be used in this study (Chik et al., 2024; Hoque et al., 2017).

Table 20: Cronbach's Alpha Value for Each Item in Standard1 Assessment MEQSw2

Component	Number of Item	Cronbach's Alpha
1	10	0.964

Overall Results of Exploratory Factor Analysis (EFA)

Based on the results of the EFA analysis on the questionnaire items, no items were excluded.

Table 21 below shows the overall latest position of the items after the EFA analysis was carried out.

Table 21: Overall EFA Analysis

No	Constructs	Va				Reliability
		Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO>0.6)	Bartlett's Test of Sphericity (Sig.< 0.05)	Total Variance Explained (>60%)	Items Factor Loading (>0.60)	Cronbach's Alpha (>0.70)
1	Headmaster Leadership Style					
	a) Transformational Leadership	0.837	0.000	79.932	10 item > 0.60	0.761
	b) Transactional Leadership	0.950	0.000	75.970	10 item > 0.60	0.909
	c) Laisez_Faire Leadership	0.804	0.000	87.758	10 item > 0.60	0.823
2	Teacher Management Motivation					0.843
	a) Intrinsic Motivation	0.808	0.000	86.426	10 item > 0.60	0.871
	b) Extrinsic Motivation				10 item > 0.60	0.824
3	Standard1 Assessment MEQSw2	0.928	0.000	77.164	10 item > 0.60	0.964

Conclusion

Overall, the requirements of the items in each Headmaster Leadership Style (based on Transformational Leadership, Transactional Leadership, Laisez_Faire Leadership), Teacher Management Motivation and Standard1 Assessment MEQSw2 among the Management of Terengganu National Schools, as a whole meet the achievement of Bartlet's Test (significant), KMO value (> 0.6), factor loading value exceeds the minimum limit of 0.6 and Cronbach's Alpha exceeds the minimum limit of 0.7 to be used in the study. This reflects that the items are not set aside and qualified to be used in this study (Chik et al., 2024; Hoque et al., 2017). Figure 6 shows all the items in the study model after EFA.

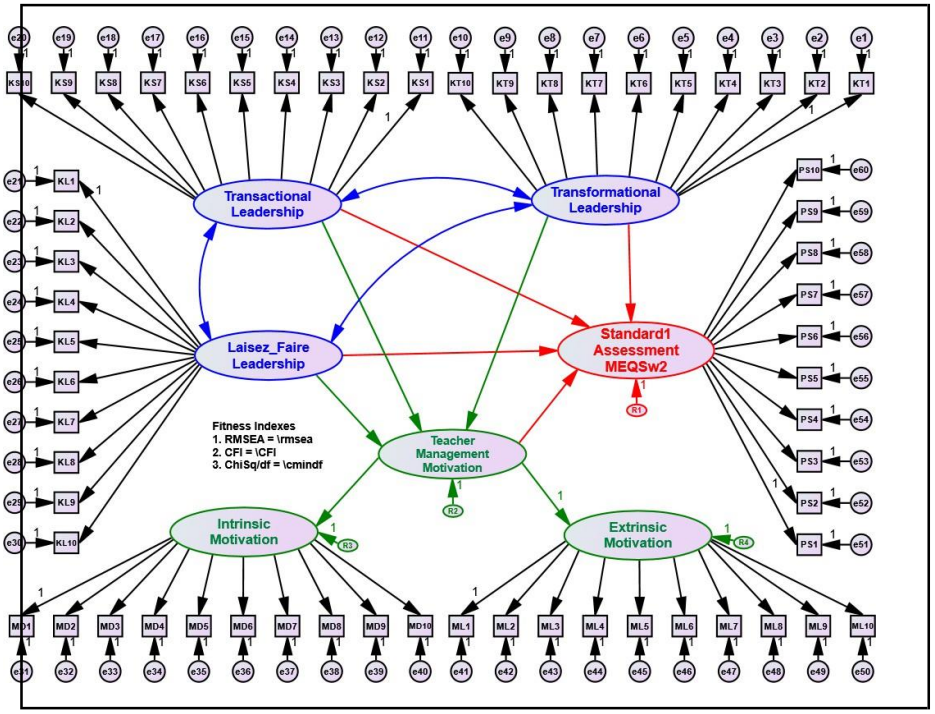

Figure 6: Overall Headmaster Leadership Style, Teacher Management Motivation and Standard1 Assessment MEQSw2

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References

Awang, Z. (2012). Structural equation modelling using AMOS graphic. Penerbit Universiti Teknologi MARA.

California: Sage Publications, Inc.

Chik, Z., & Abdullah, A. H. (2018). Developing and validating instruments for measurement of motivation, learning styles and learning disciplines for academic achievement. International Journal of Academic Research in Business and Social Sciences, 8 (4), 594 - 605.

Chik, Z., Abdullah, A. H., Ismail, M. S. & Mohd Noor, A. Z. (2024). Impact of Industrial Revolution 4.0 (IR4.0) Knowledge, Application Learning, University Policy, Commitment to Study and Motivation on Assimilate IR4.0 in Education. Journal of Economics, Finance and Management Studies, 7 (4), 3884 – 3889.

Duntemen, G. H. (1989). Principles components analysis: Quantitative applications in the social sciences.

Field, A. (2006). Discovering statistics using SPSS. London: Sage Publications Ltd.

Hoque, A. S. M. M., Awang, Z., Jusoff, K., Salleh, F., and Muda, H (2017). Social Business Efficiency: Instrument Development and Validation Procedure using Structural Equation Modelling. International Business Management, 11(1), 222-231.

Lewis-Beck M. S. (1994). Factor analysis and related techniques. London: Sage Publication, Ltd.

Mohamad Sani, I. (2013). Peranan guru kanan mata pelajaran dalam mempertingkatkan kualiti pengajaran guru-guru. Jurnal kurikulum & pengajaran asia pasifik (1).

Najeemah Mohd Yusof (2012). School Principals Leadership and Teachers Stress in Malaysia Primary Schools. International Joirnal of ducational Studies, 4 (1): 63 – 82.

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Shahrin @ Chairil Marzuki (2019). Ciri-ciri kepimpinan pengetua/guru besar yang dapat menghadapi cabaran dan harapan pada abad ke 21 ini. Jurnal Institut Pengetua Universiti Malaya 1 (1): 7 - 17.

Tabachnick, B. G., & Fidell, L. S. (2007). Using multivariate statistics (6th ed.). Boston, MA: Pearson. Yahaya Don (2012). Kepimpinan Pendidikan Di Malaysia. Batu Caves Selangor. PTS Profefessional