Essential Characteristics for School Administrators in The Digital Age for Thailand

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Abstract

Introduction: It is well known that education and teaching practices are affected by technological developments. The ubiquitous spread of information and communication technologies in recent years has forced educational institutions to undergo a digital transformation so as to keep up with the today's technological age. Educational activities have become sustainable in virtually all environments and under virtually all conditions, with interactive whiteboards having long since replaced the traditional blackboard in most schools. Changes emerging today include revised job definitions, changing patterns of daily life, and the desire for economic value; together they represent the primary results of this digital transformation. Objective: This study aims to explore the essential characteristic for school administrators in the digital age. Method: This is quantitative approach. The population was educational administrators in Thailand who are responsible for management in educational institutions. This Quantitative Research analyzed the data using Descriptive Statistics, Inference Statistic and Multivariate by IBM SPSS and Structural Equations Modeling (SEM) was analyzed by IBM SPSS AMOS.Results: 1) Government Policy (GP) 2) Performance Attribute (PA) and 3) Competent Innovation directly influence on Perceived Value. Moreover, Perceived Value directly influences on Performance Identification. Analysis of the SEM model was found to be accurate because the model is consistent with empirical data, harmonization index passed all criteria, Chi-Square = 173.53, df = 88 RMSEA = 0.04 and RMR = 0.03, index GIF = 0.96 and AGIF = 0.94 and R2/ df = 1.97. Conclusion: These findings can be used to develop academic fields such as research and strategic planning effectively and can be applied in educational industry as well, so making the product feature that meets the needs of the customer will result in the perception of the value of the product and making a purchase decision. This finding has benefits on human resources development and school management and school administrators as well.

Keywords: Essential Characteristics; School Administrators; Government Policy; Competent Innovation; Performance Identification.

Introduction

The Global Framework for Educational Competence in the Digital Age is an international digital competency framework for educators. The framework is structured sound 3 'identities' a teacher may have i.e. citizen, teacher and connector. The framework goes on to define the competences needed to realise these 3 identities (Profutoro, 2020). The Global Framework for Educational Competence in the Digital Age outlines three interconnecting parts of the educational role; these are: teacher identity; citizen identity; and the connector identity. These identities are then broken down into three major roles as follows: (1) teacher identity: design; facilitation; assessment, (2) citizen identity: lifelong learning; committed citizenship; fundamental technological literacy, and (3) connector identity: mentoring; collaboration; leadership. Each of the roles in each of the identities are then defined by their functions and practices. For example, within their teacher identity, educators should design a 21st century learning experience (function) which in practice means to promote learning to meet the challenges of the 21st century.

It is well known that education and teaching practices are affected by technological developments. The ubiquitous spread of information and communication technologies in recent years has forced educational institutions to undergo a digital transformation so as to keep up with the today's technological age. Educational activities have become sustainable in virtually all environments and under virtually all conditions, with interactive whiteboards having long since replaced the traditional blackboard in most

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schools. Changes emerging today include revised job definitions, changing patterns of daily life, and the desire for economic value; together they represent the primary results of this digital transformation. The fast-paced development and changes seen in technology have profoundly affected the teaching process, changing the methods for accessing information as well as the speed at which it is accessed. In this digital age, radical transformations have been seen in educational practices, as in almost every field, and the necessity for educational institutions to keep up with this digital transformation trend is clear. The technological devices predominantly used in recent years and the sustainability of education across virtually all conditions have emerged as a result of the sector's digital transformation.

A leading factor in the digital transformation of educational institutions has been the vision of its leaders. To a large extent, digital transformation capability can be determined by the clarity of the digital strategy employed by leaders who support a culture capable of change and fostering new ideas and practices. Leaders should also be able to consider whether or not different digital technologies or approaches can help make these changes happen in actuality. They also need to be able to understand which aspects of the current culture will drive a more comprehensive form of digital transformation.

Digitalization is a global transformation that applies not only in terms of an economy, but across virtually all areas of human life. Governments worldwide, however, are at varying different stages of digital transformation according to their priorities for establishing a functioning digital economy based on their national agenda. In this process of digital transformation, organizational administrators cannot distance themselves from this emerging and ongoing radical process of change. As known, change within organizations almost always starts with the senior administration or executive management function, but for a successful transformation, leaders need to be able to motivate their employees and to successfully direct them towards the goals of the organization. True digital transformation within organizations can only happen with leaders who are capable of successfully managing the entire process.

The internet and other digital technologies have changed our lives dramatically. Nowadays, we feel like we can't escape the digital world and its influence on our daily life. Digital literacy is a part of our everyday life. It helps us communicate with others, find information, solve problems and much more. Digital literacy is not just about knowing how to use computers or smartphones - it includes many different skills such as using social media networks or using mobile payment apps, knowing how to create content online, understanding cybercrime and safety issues. Peter Drucker is famously quoted as saying, "You can't manage what you can't measure." Drucker's axiom according to embodies the recent spike in efforts to define, measure and assess digital skills- steps essential toward building and managing a digitally skilled workforce. The main skills that all adults should have so that we can safely and effectively take part in digital life. Digital literacy is a set of skills and competencies which enable people to use digital technology in ways that create value for themselves and others. The following will assess the digital skills and competencies of administration and define their proficiency levels. Digital literacy can be assessed to determine the proficiency levels of an individual.

Research Methodology

The population was educational administrators in Thailand who are responsible for management in educational institutions.

Structural Equations Model (SEM) was used to estimate the parameters using maximum likelihood method (Hair, Black, Babin & Anderson ,2010), the total samples were 320 examples. Sampling was done in 2 steps; Quota Sampling and Purposive Sampling by collection of specific questionnaires from samples

This Quantitative Research analyzed the data using Descriptive Statistics, Inference Statistic and Multivariate by IBM SPSS and Structural Equations Modeling (SEM) was analyzed by IBM SPSS AMOS.

Data Analysis Results

Observed Variables		Correlation				
	GP1	GP2	GP3			
GP1	1					
GP2	0.66**	1				
GP3	0.58**	0.67**	1			

Table 1: Correlation values of observed variables in government policy components

Remark : **p<.01

Source: Researchers, 2023

From Table 1, Pearson correlation coefficient consisted of 3 observed variables. The results showed that the correlation between all 3 pairs of observed variables was significantly different from zero at the .01 level for all pairs and are positive correlation. Correlation coefficient was between 0.58 to 0.67, which the coefficient should not exceed 0.80, so it was not severe, indicating that all observed variables in this model were related not more than the specified value and were in the same direction.



Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00 ;RMSEA=0.00; RMR=.000; GFI=1.000; AGFI=1.00

Figure 3 The component model of government policy variables

Source: Researchers, 2023

Table 2 Component Weight Values accuracy and the mean of the extracted variance of government policy variables

Latent	AVE	CR	Obeserved Variables	Standard component	R ²
Variables				weight	
Corremensant			Educational Policy (GP1)	0.76	0.58
Policy	0.64	0.84	Human Resource Policy (GP2)	0.86	0.77
roncy			Technological Policy (GP3)	0.77	0.59

Source: Researchers, 2023

From Figure 3 and Table 2, it was found that the confirmatory component model of government policy (GP) was accurate because the model is consistent with the empirical data in good terms, with every good concordance index, Chi-Square = 0.00, df = 0, p = 0.00, that is, the χ^2 value is significantly different from zero. There are also statistically significant values as follows: RMSEA = 0.00 and RMR = 0.00 are close to 0, GIF index = 1.00 and AGIF = 1.00 are close to 1 and χ^2 / df = 0.00 which is less than 3 and Model is Saturated, Fit is Perfect, government policy latent variables consisted of 3 observed variables with mean Average Variance Extracted (AVE) of 0.64 and Composite Reliability (CR) of 0.84. The weight of the standard components was between 0.76–0.86, which was suitable for further structural equations. As for

the reliability coefficients of the observed variables. All values measured on R^2 indicating the covariance of the observed variables with government policy were moderate to high (R^2 ranged from 0.58 to 0.77).

2) The result of verifying the validity of the structure of the Performance Attributes model is shown in Table 3-4.

Observed Variables		Correlation	
	PA1	PA2	PA3
PA1	1		
PA2	0.58**	1	
PA3	0.54**	0.62**	1

	Table 3 Corr	relation of observ	ed variables ir	n innovative	product attributes
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Remark: **p<.01

Source: Researchers, 2023

From Table 3, it was found that Pearson correlation coefficient consisted of 3 observed variables. The results showed that the correlation between all 3 pairs of observed variables was significantly different from zero at the .01 level for all pairs are positive correlation and correlation coefficient was between 0.54 to 0.62, which the coefficient should not exceed 0.80, so it was not severe, indicating that all observed variables in this model were related not more than the specified value and were in the same direction.



Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00 ;RMSEA=0.00; RMR=.000; GFI=1.000; AGFI=1.00

Figure 4 Compo	nent model of	Product Attributes
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Source: Researchers, 2023

Table 4 Component Weight Values accuracy and the mean of the extracted variance of Performance Attribute variable

Latent	AVE	CR	Observed Variable	Standard	R ²
Variables				Component Weight	
Derfermen			Instrumental Attribute (PA1)	0.71	0.50
Attributes	0.58	0.81	Process Attribute (PA2)	0.82	0.66
Autoutes			Technical Attribute (PA3)	0.76	0.58

Source: Researchers, 2023

From Figure 4 and Table 4, it was found that Performance Attribute (PA) confirmatory component model was accurate because the model is consistent with the empirical data in good terms, with every good concordance index, Chi-Square = 0.00, df = 0, p = 0.00, χ^2 value is significantly different from zero. There are also statistically significant values as follows: RMSEA = 0.00 and RMR = 0.00 are close to 0, GIF index = 1.00 and AGIF = 1.00 are close to 1 and χ^2 / df = 0.00 which is less than 3 and Model is Saturated, Fit is Perfect. Performance Attribute consisted of 3 Observed Variables with a mean Average Variance Extracted (AVE) of 0.58 and a Composite Reliability (CR) of 0.81. The standard component weight was between 0.71-0.82, suitable for further structural equations. As for the reliability coefficients of the observed variables, all values measured on R² indicating the covariance of the observed variables with Performance Attribute were moderate to high (R^2 ranged from 0.50 to 0.66).

3) The result of verifying the structural validity of the Competent Innovation as shown in Table 5-6.

Observed		Correlation	
Variables	CI1	CI2	CI3
CI1	1		
CI2	0.64**	1	
CI3	0.58**	0.59**	1

Table 5 Correlation of Observed Variables in Competent Innovation components

Remark: **p<.01

Source: Researchers, 2023

From Table 5, it was found that Pearson correlation coefficient consisted of Observed Variables 3 variables. All 3 pairs of variables were significantly different from zero at the .01 level. All pairs were positive correlation and correlation coefficient was between 0.58 to 0.64, which the coefficient should not exceed 0.80, so it was not severe. All variables in this model are related to no more than a given value and in the same direction.



Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00 ;RMSEA=0.00; RMR=.000; GFI=1.000; AGFI=1.00

Figure 5 Composition model of Competent Innovation

Source: Researchers, 2023

Table 6 Component Weight Values accuracy and the mean of the extracted variance. of the Consumer

Innovation

Latent Variables	AVE	CR	Observed Variables	Standard Component Weight	R ²
C. man at ant			Knowledge Innovation (CI1)	0.79	0.62
Longuetion	0.61	0.82	Social Innovation (CI2)	0.81	0.66
Innovation			Functional Innovation (CI3)	0.73	0.54

Source: Researchers, 2023

From Figure 5 and Table 6, it was found that the confirmatory component model of the Competent Innovation (CI) is accurate because the model is consistent with the empirical data in good terms, with every good concordance index, Chi-Square = 0.00, df = 0, p = 0.00, that is, χ^2 value is significantly different from zero. There are also statistically significant values as follows: RMSEA = 0.00 and RMR = 0.00 are close to 0, GIF index = 1.00 and AGIF = 1.00 are close to 1 and χ^2 / df = 0.00 which is less than 3 and Model is Saturated, Fit is Perfect. Competent Innovation consisted of 3 Observed Variables with mean Average Variable had Standard Component Weight between 0.73–0.81 suitable to be included. Reliability coefficients of the observed variables, every value measured from R² indicates the covariance of the observed variable with Consumer Innovation is moderate to high (R² ranges from 0.54 to 0.66).

4) The result of verifying the structural validity of Perceived Value model is shown in Table 7-8.

Observed		Correl	ation	
Variables	PV1	PV2	PV3	PV4
PV1	1			
PV2	0.63**	1		
PV3	0.60**	0.72**	1	
PV4	0.61**	0.62**	0.69**	1

Table 7 Correlation of Observed Variables in Perceived Value

Remark: **p<.01

Source: Researchers, 2023

From Table 4.18, it was found that the Pearson correlation coefficient consisted of Observed Variables 4 variables. All 6 pairs of variables were significantly different from zero at the .01 level. All pairs were positive correlation and correlation coefficient was between 0.60 to 0.72, which the coefficient should not exceed 0.80, so it was not severe. All variables in this model are related to no more than a given value and in the same direction.



Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00 ;RMSEA=0.00; RMR=.000; GFI=1.000; AGFI=1.00

Figure 6 Compositional model of Perceived Value variables

Source: Researchers, 2023

Table 8 Component Weight Values accuracy and the mean of the extracted variance of Perceived Value variable

Latent	AVE	CR	Observed Variables	Standard Component	R ²
Variables				Weight	

	DO1. <u>https://doi.org/10.02/94/joc.v9/</u>					
			Pride Benefit (PV1)	0.79	0.62	
Perceived	0.7	0.80	Emotional Value (PV2)	0.81	0.65	
Value	0.67	0.89	Functional Value (PV3)	0.90	0.81	
			Relationship Value (PV4)	0.77	0.60	

Source: Researchers, 2023

From Figure 6 and Table 8, it was found that the confirmatory component model of Perceived Value (PV) was accurate, model is in good concordance with the empirical data, with all good fit indexes, Chi-Square =0.00, df = 0, p = 0.996, that is, the value of χ^2 is significantly different from zero. There was no statistical significance either for the following values: RMSEA = 0.00 and RMR = 0.00 were close to 0, index GIF = 1.00 and AGIF = 1.00 were close to 1 and χ^2 / df = 0.00 which was less than 3 and Model is Saturated, Fit is Perfect. Perceived Value consists of four Observed Variables with mean Average Variance Extracted (AVE) of 0.67 and Composite Reliability (CR) of 0.89. Each Observed Variable has a Standard Value Component weight was between 0.77–0.90 suitable to be put in SEM. All values measured on R² indicating the covariance of the observed variables with Perceived Value were high (R² ranged from 0.62 to 0.81).

5) Structural Validity Verification Results of Characteristics Importance, as shown in Table 9-10.

Table 9 Correlation of Observed Variables in Characteristics Identification elements

Observed		Correlation	
Variables	CI1	CI2	CI3
CI1	1		
CI2	0.64**	1	
CI3	0.56**	0.58**	1

Remark: **p<.01

Source: Researchers, 2023

From Table 9, it was found that the Pearson correlation coefficient consisted of Observed Variables 3 variables. All 3 pairs of variables were significantly different from zero at the .01 level. All pairs were positive correlation and the correlation coefficient was between 0.56 to 0.64, which the coefficient should not exceed 0.80, so it was not severe. All variables in this model are related to no more than a given value and in the same direction.



Chi-square=0.00; df=0; relative chi-square=1.00; p=1.00 ;RMSEA=0.00; RMR=.000; GFI=1.000; AGFI=1.00

Figure 7 Component model of Performance Identification element

Source: Researchers, 2023

Latent	AVE	CR	Observed Variables	Standard	R ²
Variables				Component	
				Weight	
Performance Identification	0.60	0.82	Knowledge Identification (PI1)	0.79	0.62
			Leadership Identification (PI2)	0.81	0.66
			Personality Intention (PI3)	0.71	0.51

Table 10 Component Weight Values accuracy and the mean variance extracted of Performance Identification

Source: Researchers, 2023

From Figure 7 and Table 10, it was found that the confirmatory component model of Performance Identification (PI) is accurate because the model is consistent with the empirical data in good terms, with every good concordance index, Chi-Square = 0.00, df = 0, p = 0.00, that is, χ^2 value is significantly different from zero. There are also statistically significant values as follows: RMSEA = 0.00 and RMR = 0.00 are close to 0, GIF index = 1.00 and AGIF = 1.00 are close to 1 and χ^2 / df = 0.00 which is less than 3 and Model is Saturated, Fit is Perfect. Performance Identification consisted of 3 Observed Variables with mean Average Variable had Standard Component Weight between 0.71–0.81 suitable to be included for SEM. Reliability coefficients of the observed variables, all values measured from R² indicating the covariance of the observed variables with Purchase Intention of innovative solar air conditioners is moderate to high (R² ranges from 0.51 to 0.66).

The Results of The Analysis of The Relationship Between Latent Variables

From Table 11, the analysis of the relationship between all 5 variables by Bartlett's Test of Sphericity statistic had a Chi-Square statistical value of 4349 (P<.01) at df of 120. Analysis of the index Kaiser-Meyer-Olkin of Sampling Adequacy was 0.83, which was greater than 0.50 (Kalaya Wanichbuncha, 2008). All 5 variables are correlated in a suitable size that can be used in further analysis. All 10 pairs of variables were significantly greater than zero at the .01 level. Every pair indicated that the correlation coefficient between variables was positively correlated and ranged from 0.05 to 0.43, indicating that all Latent variables are suitable to be used in SEM analysis.

Latent Variables	GP	PA	CI	PV	PI			
Government Policy (GP)	1.00							
Performance Attribute (PA)	0.12**	1.00						
Competent Innovation (CI)	0.20**	0.31**	1.00					
Perceived Value (PV)	0.20**	0.41**	0.43**	1.00				
Performance Identification (PI)	0.18**	0.05	0.27**	0.28**	1.00			
KMO : Measure of Sampling Adequacy = 0.830								
Bartlett's Test of Sphericity : Chi-Square = 4349.718 , df = 120 , p = .000								

 Table 11 Relationship value of Latent Variables in SEM model of Essential Characteristics for Educational Administrators

Remark: **Sig. < .01

Source: Researchers, 2023

Results of Developing a Causal Relationship Model

Based on the fundamental data analysis of the observed variables, the confirmatory components of the latent variables and the correlation between the latent variables found to be suitable to include into the structural equation. The researcher has developed and adjusted the model until the standard meets the criteria. The AMOS 24 program was used and in the final model it was found that the analysis of the validity of SEM model of of Essential Characteristics for Educational Administrators, and the influence values between the variables in the model by using Latent Variables and using the criteria for Goodness of Fit Statistics (Nonglak Wiratchai, 1995 and Supamas Angsuchot et al., 2011) as follows: χ^2 and $\chi^2 / df < 2.00$, RMSEA < 0.05, RMR < 0.05, GFI > 0.90 and AGFI > 0.90 were standard values according to the harmonization statistical criteria with statistical significance.



Figure 8 Structural equation model of Essential Characteristics for Educational Administrators before model adjustment

Source: Researchers, 2023

From the result of checking of Essential Characteristics for Educational Administrators as shown in Figure 4.6, it was found that the model still not consistent with empirical data, the researcher therefore adjusted the model 10 times until it was found that Competent Innovation (CI) is the factor that affects Essential Characteristics for Educational Administrators the most, followed by Perceived Value (PV), Government Policy (GP) and Performance Attribute (PA), respectively, as shown in Figure 4.7.



Figure 9 SEM model of factors influencing of Essential Characteristics for Educational Administrators after the 10th model revision

Source: Researchers, 2023

Hypothesis Test Results

Table 12 Research Hypothesis Testing Results

Hypothesis	Path	P-value	Result
	coefficients		
Hypothesis H1: Government Policy directly	0.11**	0.010	Consistent
influences Perceived Value			
Hypothesis H2: Performance Attributes directly	0.32**	0.000	Consistent
influence Perceived Value			
Hypothesis H3: Competent Innovation directly	0.41**	0.000	Consistent
influences Perceived Value			
Hypothesis H4: Government Policy directly	0.13**	0.006	Consistent
influences Performance Identification			
Hypothesis H5: Perceived Value directly	0.19**	0.000	Consistent
influences Performance Identification			
Hypothesis H6: Competent Innovation directly	0.29**	0.000	Consistent
influences Performance Identification			

Remark: **Sig. < .01

Source: Researchers, 2023

Hypothesis 1

Government Policy directly influences Consumer Perceived Value. The results showed that Government Policy directly influences Perceived Value (p<.01), accepted Hypothesis 1 and was consistent with the research of Li , Zhou, Yu and Liu (2022) found that the Government Policy on education had a direct influence on Perceived Value and in line with the research of Hatim Loudiyi, Youssef Chetioui and Hind Lebdaou (2022) found that Government Policy on education supporting had Direct influence on Consumer's Perceived Value.

Hypothesis 2

Performance Attributes directly influence Perceived Value.

Hypothesis 3

Competent Innovation directly influences Perceived Value. The study found that Competent Innovation directly influences Perceived Value (p<.01), accepted Hypothesis 3, which was consistent with the research of Jon-Chao Hong, Pei-Hsin Lin and Pei- Chi Hsieh (2017) found that Competent Innovation has a direct influence on Perceived Value of educational institutes and management. And in accordance with the research of Reyvina, Hetty Karunia Tunjungsari (2022) found that Competent Innovation has a direct influence on Perceived Value of school royalty.

Hypothesis 4

Government Policy directly influences Performance Identification. The study found that Government Policy directly influences Performance Identification, accepting Hypothesis 4 is consistent with the research of Muhammad Rizwan Ali , Muhammad Shafiq and Murad Andejany (2021) that government policy directly influences to Performance Identification of high-performance schools, consistent with research by Yueling Xu, Wenyu Zhang, Haijun Bao, Shuai Zhang and Ying Xiang (2019) that government policy directly influences Performance Identification on school curriculum and in accordance with the research of Yuqing Lin, Jingjing Wu and Yongqing Xiong (2021) that government policy directly influences Performance Identification on school budget.

Hypothesis 5

Perceived Value directly influences Performance Identification. The study found that Perceived Value directly influences Performance Identification (p<.01), accepting Hypothesis 5 is consistent with the research of Herman Fassou Haba, Zubair Hassan and Omkar Dastane (2017). It was found that Perceived Value had a direct influence on Performance Identification of knowledge of school administrators and in line with the research of Yueying Wang and Ying Tian (2023) found that Perceived Value had a direct influence on student admission and Performance Identification.

Hypothesis 6

Competent Innovation directly influences Performance Identification. The results showed that Competent Innovation directly influences Performance Identification (p<.01), accepted Hypothesis 6 is in line with the research of Won-Moo Hur, Jeong-Ju Yoo and Te-Lin Chung (2011) found that Competent Innovation has a direct influence on Performance Identification of school robots media, and in accordance with Sayed Kifayat Shah, Zhongjun Tang, Beata Gavurova, Judit Oláh and Ángel Acevedo-Duque (2022) that Competent Innovation has a direct influence on Performance Identification of innovative Curriculum and textbooks.

Conclusions

The results from the confirmatory component analysis of Latent Variables found that

- 1. Government Policy (GP) components consisted of 3 Observed Variables with mean extracted variance (AVE) equal to 0.64 and structural reliability (CR) equal to 0.84. Each Observed Variable has Standard Component Weight between 0.76–0.86.
- 2. Performance Attribute (PA) consisted of 3 observed variables with mean extracted variance (AVE) equal to 0.58 and structural reliability (CR) equal to 0.81. Each Observed Variable has Standard Component Weight. is between 0.71–0.82.

- 3. Competent Innovation consists of 3 Observed Variables with mean extracted variance (AVE) equal to 0.61 and structural reliability (CR) equal to 0.82. Each Observed Variable has Standard Component Weight between 0.73–0.81.
- 4. Perceived Value component consisted of 4 Observed Variables with the extracted mean variance (AVE) equal to 0.67 and the structural reliability (CR) equal to 0.89. Each Observed Variable has a Standard Component Weight between 0.77–. 0.90
- 5. Performance Identification consisted of 3 observed variables with mean extracted variance (AVE) equal to 0.60 and structural reliability (CR) equal to 0.82. Each Observed Variable had Standard Component Weight between 0.71–0.81.

Analysis of the SEM model was found to be accurate because the model is consistent with empirical data, harmonization index passed all criteria, Chi-Square = 173.53, df = 88 RMSEA = 0.04 and RMR = 0.03, index GIF = 0.96 and AGIF = 0.94 and $\Box 2 / df = 1.97$. Observable Variable of Latent All variables are positive. and different from zero at the statistical significance level of .01 which can jointly Essential Characteristics for Educational Administrators (R2) was 14%. Competent Innovation had the highest total influence size of 0.29, followed by Perceived Value with a total influence size of 0.19, Government Policy had a total influence size of 0.15, and Performance Attribute has a total influence size of 0.06

Finally, the researcher concluded that the hypothesis testing of the SEM model found that all 6 hypotheses were statistically consistent with the empirical data.

New Knowledge

- 1. The relationship of Government Policy, Performance Attribute, Competent Innovation and Perceived Value toward Performance Identification of Essential Characteristics of Educational Administration in Thailand is at 14 % (p < .01). These findings can be used to develop academic fields such as research and strategic planning effectively and can be applied in educational industry as well.
- 2. Competent Innovation has a collective influence on Performance Identification of Essential Characteristics of Educational Administration in Thailand equal to 0.29, the greatest total influence size and has a direct influence on Perceived Value with an influence value of 0.41. Therefore, educational operators must pay attention to Competent Innovation first because it has the largest total influence size. Therefore, administrators must focus on creating ways to reach stakeholders customers with Competent Innovation and the needs of this group of students are used to develop products in order to make them realize the value of the educational product and the various benefits that so that students can trust and have confidence in enrolling to the school.
- 3. Perceived Value had a total influence on Performance Identification of Essential Characteristics of Educational Administration in Thailand equal to 0.19. Therefore, school must deeply understand students want and develops products and marketing strategies to meet their needs so that stakeholders can have tangible confidence in the products and the schools.
- 4. Performance Attribute had a direct influence on Perceived Value with an influence size of 0.32, so making the product feature that meets the needs of the customer will result in the perception of the value of the product and making a purchase decision.

References

Fangyu Zhang , Siwei Sun , Chenlin Liu and Victor Chang. "Stakeholders Innovation, Product innovation and smart toys" Electronic Commerce Research and Applications 41(1): 100974

Hair, J., Black, W., Babin, B. and Anderson, R. 2010. Multivariate Data Analysis. Englewood Cliffs, NJ: Pearson Education. Hatim Loudiyi, Youssef Chetioui and Hind Lebdaoui. 2022. "Economics of Education Adoption: An Integrate Framework for Investigating the Antecedents of Perceived Value and Purchase Intent" International Journal of Economics and Financial Issues 12(5): 29-38.

- Hur, W., Yoo, J. and Chung, T. 2012. "The consumption values and stakeholders Innovation on convergence products Industrial Management & Data Systems. 112 (5): 688-706.
- Jizi Li , Yuping Zhou , Dengke Yu and Chunling Liu. 2020. Stakeholderss' Purchase Intention of New Curriculum. Sustainability2020 12(5): 1711
- Jon-Chao Hong , Pei-Hsin Lin and Pei-Chi Hsieh. 2017. "The effect of stakeholders Innovation on perceived value in Human Behavior 67(1): 264–272

Li J, Zhou Y, Yu D and Liu C. 2020. "Stakeholderss' Do Product-Life-Cycle Policy Portfolios Matter?" Sustainability.2020 12(5): 1711.

Mohammad Alipour , Rodney A. Stewart and Oz Sahin. 2021. "Beyond the Diffusion of Educational Systems at Scale: 2021 14: 5015.

Zhong, L. The effectiveness of K-12 principal's digital leadership in supporting and promoting communication and collaboration regarding CCSS implementation. J.

Educ. Technol. Dev. Exch. 2017, 10, 54–77. [CrossRef] Stake, R.E. The Art of Case Study Research; Sage: London, UK, 1995.

Yin, R.K. Case Study Research. Design and Methods; Sage: Thousand Oaks, CA, USA, 2014.

Ekiz, D. Introduction to Research Methods and Methods in Education; ANI: Ankara, Turkey, 2003.

Glesne, C. Introduction to Qualitative Research; Ersoy, A.; Yalcinoglu, P., Translators; Ersoy,

A., Yalcinoglu, P., Eds.; ANI: Ankara, Turkey, 2012.

Kiewkong, P., Saengnoree, A., Deepijarn, S., & Vuthisopon, S. (2023). Innovation E-Learning Affecting the Efficiency of Employee: A Case Study of Airports of Thailand Public Company Limited. Journal of Law and Sustainable Development, 11(11), e1723.

https://doi.org/10.55908/sdgs.v11i11.1723

Methawikul, M., Kuljirundhorn, B., & Sampaio, F. (2023). The Readiness and Necessity of

Election of Provincial Governors in Thailand. Revista De Gestão Social E Ambiental, 18(2), e04438. https://doi.org/10.24857/rgsa.v18n2-003

Patton, M.Q. Qualitative Research and Evaluation Methods; Bütün, M., Demir, S.B., Eds.; Pegem: Ankara, Turkey, 2014.

Bogdan, R.C.; Biklen, S.K. Qualitative Research for Education: An Introduction to Theory and

Methods, 2nd ed.; Allyn & Bacon: Boston, MA, USA, 1992.

Yildirim, A.; Simsek, H. Qualitative Research Methods in the Social Sciences, 8th ed.; Seckin: Ankara, Turkey, 2011.

Attride-Stirling, J. Thematic networks: An analytic tool for qualitative research. Qualit. Res. 2001, 1, 385–405. [CrossRef]

Buyukozturk, S.; Cakmak, E.K.; Akgun, O.E.; Karadeniz, S.; Demirel, F. Scientific Research Methods, 3rd ed.; Pegem: Ankara, Turkey, 2009.