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THE EFFECTS OF EDUCATION QUALITY SYSTEM MANAGEMENT ON THE DEVELOPMENT OF BASIC EDUCATION INSTITUTIONS IN THAILAND AS AN EDUCATIONAL INNOVATIVE ORGANISATION

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Abstract

This research aimed to examine: 1) the education quality system management of basic education institutions in Khon Kaen, Thailand, 2) the basic education institutions as an educational innovative organisation, and 3) the effects of education quality system management on the development of basic education institutions as an educational innovative organisation. The study revealed three significant findings: 1) Education Quality system management of the basic education institutions in Khon Kaen was at the highest level. 2) The creation of the basic education institutions in Khon Kaen as an educational, innovative organisation required eight characteristics. 3) Education quality system management signified five variables. All variables affecting the creation of the basic education institutions in Khon Kaen as an educational innovative organisation at 89.92%.

Keywords: Education Quality System Management, Basic Education Institution, Educational Innovative Organisation

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Introduction

The application of digital technology for organisational development is part of the age of globalisation, with rapid changes in global social trends. Digital disruption refers to the changing conditions caused by digital technologies that create innovations and new business models (Phakamach et al., 2022a). There has been a change in every aspect, including science, society, a knowledge-based economy, and the advancement of information technology. It is therefore, a challenge that people in the present era will realize for organisational success and develop self-reliant technologies (Ngernprasertsri, 2012; Sinlarat, 2020). It is essential to encourage continuous learning throughout the organisation and develop the organisation to go through various situations that may arise. People must be qualified, ready to develop the organisation and have a good management and operational system to achieve the specified goals on a quality organisation and output (Onsompant, 2020; Phakamach, Panjarattanakorn, Ratchavieng & Senarith, 2023). Educational institutions or schools are vital social institutions responsible for building and developing human capital. Therefore, educational management serves as the foundation of the country's development. Academic institutions need to have a good structure, process, and strategy. This requires strategic educational organisations' principles, methods, and management (Mongkolvanich, 2012; Sinlarat, 2020). School administrators must use leadership and professionalism to manage and support the systems for excellence in quality. The Office of the Basic Education Commission (OBEC) aimed at quality basic education and implemented the World-Class Standard School project in 2018 (Sirivarn, 2012; Poonsapaya, et al., 2018). The project adopted the Malcolm Baldrige National Quality Award (MBNQA) system, which develops organisational management capabilities at the global standard level. The quality criteria were later developed as NEDA--also called OBECQA--to promote and support the development of quality education at the international level (Office of the Basic Education Commission, 2017). The project was to (1) develop students to have world citizenship, academic excellence, communication in at least two languages, advanced ideas, creative work and responsibility for the global society; (2) enhance teaching and learning management comparable to World-Class Standard Schools regarding academic quality, teacher quality, and research and development; (3) apply the principles of TQA to develop a handbook for the quality management of international standard schools by operating with seven categories of quality management system: (1) Leadership, (2) Strategic Planning, (3) Student and Stakeholder Focus, (4) Measurement, Analysis and Knowledge Management, (5) Faculty and Staff Focus, (6) Process Management, (7) Performance Results. These categories support quality development at the international level (Office of High School Administration, 2010).

In the digital era, learners will be the focus of education at all levels, and they must be developed with quality following modern learning competency criteria. "Educational innovation" is innovation that arises from the concept of models, methods, processes, or tools that are designed with creativity and are used in the educational field. There is a systematic trial and test of performance. It eventually became a recognised innovation and could be applied to the development of a quality education system. Phakamach (2023) define Educational Innovative Organisation as an organisation or educational institution with a new action. Reconstruction or development of modifications from anything makes education or teaching activities more effective than before. This causes learners to make changes in their learning. Rapid learning motivates students to study, resulting in maximum efficiency and effectiveness for learners and being an innovative organisation in education. Therefore, educational institutions must be able to innovate and develop from the work process and production of works. Creating materials or methods for teaching and learning, including measurement and evaluation, to promote learners' learning according to their potential and

have the ability to be ready for further education and careers effectively. (Phakamach et al., 2021).

An educational innovative organisation refers to an organisation that supports people's innovation for change. Leaders must motivate their people to work hard and have knowledge and expertise in the work done (Decharin, 2012). Moreover, Tidd et al. (2009) and Phakamach et al. (2021) introduced the concept of creating an educational innovation organisation. It contained eight components: (i) Shared Vision, Leadership and the Will to Innovate, (ii) Appropriate Organisation Structure, (iii) Key Individual, (iv) High Involvement in Innovation, (v) Effective Team Work, (vi) Creative Climate, (vii) Boundary Spanning and Exchange, and (viii) Beyond the Steady State. Therefore, educational organisation executives with innovative leadership in the models and methods. The organisation has an atmosphere conducive to innovation. Including teachers and education personnel have innovative habits. Inevitably, the organisation has become an educational innovation organisation that can continuously create new educational innovations. The organisation has the potential to be competitive and sustainable in creating added value for education agencies in the digital era.

Khon Kaen Primary Educational Service Area District Office (2023) presented the results of education management in the academic year 2023 as follows:

- 1) O-NET test results for the 6th and 3rd grades in 2022 and 2021, respectively, fell below the national level.
- 2) Centrally defined policies appeared inconsistent with the needs of school district offices and educational institutions and were intermittent.
- 3) There was a shortage of personnel with specialized knowledge and abilities, such as information technology, rapidly changing information technology media, social problems with weak moral and ethical aspects, violence against children and young people with high-risk attitudes, values and behaviours.
- 4) Educational institutions lacked digital technology equipment for learning and management, and some office supplies were insufficient. The COVID-19 pandemic resulted in a significant reduction in testing.
- 5) Each educational institution needs a management model that is more effective in coping with educational changes that directly affect the quality of basic education both now and in the future.

It was noted that most basic education institutions in Khon Kaen Province of Thailand under Khon Kaen Primary Educational Service Area District Office 1, Office 2, Office 3, Office 4, Office 4, Office 5, and Khon Kaen Provincial Administrative Organisation did not participate in the world-class standard school project on education quality management and educational innovative organisation. In this regard, the researchers expected that the principles of quality management and innovation organisation under study could generate practical implications for school management at the provincial and national levels. With such expectation, the researchers considered the significance of the education quality system management in terms of its effects on creating basic education institutions in Khon Kaen as an innovative educational organisation.

Literature Review

Educational Innovative Organisation

Phakamach et al. (2021) and Kuril et al. (2023) have given that an Educational Innovative Organisation means an organisation or educational institution with a new action, new creation or development adapted from anything, making education or teaching activities more effective than ever, causing learners to learn to change in learning, rapid learning occurs, and being motivated to study, resulting in maximum efficiency and effectiveness with learners. Therefore, as an organisation of educational innovation, educational institutions must be able

to invent new things for development from the work process. Moreover, production is Both in the management model, preparation of the course, creating media or teaching and learning management methods, including measurement and evaluation to promote learner' learning according to potential and have a competency ready to study and continue to work effectively. The literature review and related research documents found a study of factors and the innovative organisation model. However, the study a model of being an Educational Innovative Organisation is still relatively small. Especially in Thailand, therefore, the author has brought the study of a model of being an Educational Innovative Organisation that has been proven and accepted academically to present by linking to the context of educational organisations at all levels of Thailand and around the world (Rehman & Iqbal, 2020; Wilson & Sy, 2021; Ayduğ & Ağaoğlu, 2023). This found that factors affecting the Educational Innovative Organization must consist of the main components, including innovative leadership, innovative climate, and innovative behaviour.

1) Innovative Leadership

The critical role of the highest management is to drive the organisation to move to be an organisation of educational innovation. Can summarise the characteristics of the organisation of educational innovation management on the issue of having innovative leadership as follows (Phakamach, Panjarattanakorn & Onsarpant, 2023):

(1) Executives in the organisation have a vision to change the organisation's management to the goal. Ready to support the management to an innovative organisation. Pay attention to the correct thinking process in management and continuously develop to compete in the future. Moreover, it supports research for development.

(2) Executives in the organisation are ready to listen to opinions. Be a excellent example for personnel. Support the development of knowledge and skills of personnel that are consistent with the goals. Pay attention to mobilising talented people within the organisation. Understand the art of managing a team with knowledge and gifted people to be the most effective. Understand the role of related technologies and support the use of technology appropriately.

(3) Organizational executives pay attention to the development of procedures. They create a transparent work process, participate in and decentralize management, create a listening and accessible atmosphere, and communicate clear information that can be managed amid cultural diversity.

As for the critical role of human resources executives of educational organisations that will move to Educational Innovative Organisations to be successful, it can summarise essential issues such as (1) Human resource executives must work together with educational organisation executives and our business partners, (2) Is an educational change, and risk manager can work under pressure and with others, (3) Strategic Human Resources Agency Executives Support the use of technology to operate effectively, including being an agency to develop knowledge, ability, and personnel in educational organisations to be equivalent to international, and (4) Human Resources executives who are sponsors and coordinate to be consistent throughout the organisation. They are developing and maintaining good people within the organisation and developing human resources workers to perform professional work.

2) Innovative Climate

The management of the educational institution has many roles depending on the mission and administrative activities. Education administration in the 4.0 era must be consistent with the change of global society, especially society and the atmosphere of learning in the era of technology, to connect various information from all regions of the world. Executives must fully implement high-level management strategies and techniques to lead the organisation to success (Keinänen & Kairisto-Mertanen, 2019). Therefore, the development of educational institutions, the academic environment, and the right environment for learning are always important and urgent. Management should be aware of the decision to implement the institution's mission in

which it is responsible for creating quality for the future seriously and urgently (Aniskina & Terekhova, 2019; Kolomiets & Litvinova, 2019).

3) Innovative Behavior

The last important thing being an Educational Innovative Organisation is “Innovative Behavior” from the analysis of information related to the Innovative Organisation. It was found that the personnel characteristics of educational organisations that can be “Educational Innovators” should have the following habits (Da’as et al., 2020; Aboobaker & KA, 2021).

(1) Have professional leadership, focus on planning, and have a conscience and ethics in achieving goals.

(2) Have creative initiatives, think positively, think, know well, write well and speak well, intend to perform the best duties and responsibilities, constantly practice additional knowledge, can use at least three languages, have excellent computer performance, and specialise in technology and innovation.

(3) Can work with others effectively. Work as a team by acting as a leader and follower according to the expertise and suitability of work and create results according to standards.

(4) Be equipped with both primary and secondary skills. Work multi-function. Be ready to accept changes at any time. Understand and know their business well. Understand the impact of globalization on business. Have all-around knowledge and adapt to change.

(5) Can use technology that is widely suitable for the job.

The essential tips to be an excellent educational innovator from an innovative perspective are: know yourself, draw a dream clearly, know how it differs from others, how to make a difference, and What is used as a difference. Find knowledge and network, Find ideas and capital systems. Finally, it is time to test your mind with those who know. Suppose it is in the criteria that is enough to proceed immediately. In addition, there must be an understanding of the science of successful innovation management, which must have a strategic plan based on three principles, including academic principles and practices. As for learning management to create innovation, you can summarise the steps to develop yourself as an educational innovator, including 1) Start with what interests, 2) Plan following the goals of the organisation, 3) Plan together, 4) Learn by doing it to create new knowledge, 5) Summaries knowledge and keep records of work, 6) Presenting the work, 7) Analysis and evaluation, and 8) Continuing knowledge of innovations, respectively.

Research Conceptual Framework

Research concepts can be formulated from the literature review and related research process design. The researchers established a conceptual framework for the research by adopting quality management according to the principles of the Office of High School Administration (2010) in 7 categories: (i) Leadership, (ii) Strategic Planning, (iii) Student and Stakeholder Focus, (iv) Measurement, Analysis and Knowledge Management, (v) Faculty and Staff Focus, (vi) Process Management, and (vii) Performance Results and study the creation of innovative organisations according to the concept of Tidd et al. (2009) in 8 elements as follows: (i) Shared Vision, Leadership and the Will to Innovate, (ii) Appropriate Organisation Structure, (iii) Key Individual, (iv) High Involvement Innovation, (v) Effective Team Working, (vi) Creative Climate, (vii) Boundary Spanning, and (viii) Beyond the Steady State. The conceptual research framework is shown in Figure 1.

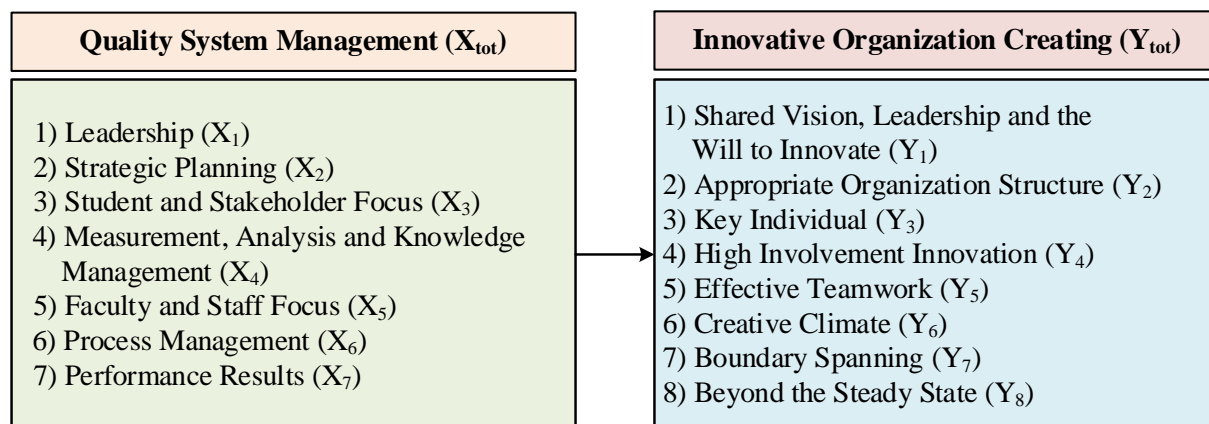


Figure 1 Research conceptual framework.

Research Methodology

This research was conducted with basic education institutions under Khon Kaen Primary Educational Service Area District Office and Khon Kaen Provincial Administrative Organisation (PAO) to obtain the needed data for analysis.

Population and Sample

The population of the basic educational institutions in Khon Kaen Province of Thailand was 1,497 schools: 1) 154 schools under the Office of Khon Kaen Elementary Education Area District 1, 2) 208 schools under Khon Kaen Elementary Education Area Office District 2, 3) 177 schools under Khon Kaen Elementary Education Area Office District 3, 4) 175 schools under Khon Kaen Elementary Education Area Office District 4, 5) 257 schools under Khon Kaen Elementary Education Area Office District 5, and (3) 442 schools under Khon Kaen Provincial Administration Organisation (PAO).

The sample group was 54 elementary schools from the six Offices. The sample was classified by school size as extra-large and prominent, medium, and small—having 22 schools for each size. The two-stage random sampling method was used:

1) The school sample was assigned according to the three sizes of the schools under each office: extra-large and large, medium, and small. The researchers collected data from six schools of each size.

2) The size-criterion of the participating schools determined the number of informants. Each school had ten students, a medium school eight students, and a small school four students as informants per school. The total number of informants was 396, as shown in Table 1.

Table 1 Samples and Informants Classified by School Size and Affiliation in Khon Kaen

School Size Number of Informants	Khon Kaen (OPEA) Office 2		Khon Kaen (OPEA) Office 4		Khon Kaen (PAO)		Include Contributors
	Affiliation		Affiliation		Affiliation		
Extra-large and large size (10 person/school)	6	60	6	60	6	60	180
Medium size (8 person/school)	6	48	6	48	6	48	144
Small size (4 person/school)	6	24	6	24	6	24	72
Total	18	132	18	132	18	132	396

Research Instruments

The research tool was an opinionnaire through content validity verification with the Index of Item Objective Congruence (IOC) technique from three experts in educational management. The individual index was between 0.71-1.00. Then the researchers obtained the accuracy of the whole analysis at the reliability value of .987, the accuracy of quality management variables equal to .995, and the accuracy of innovation organisation variables equal to 0.976.

The criteria for using the score measurement are as follows: Strongly Agree; the weight was scored as 5. Agree; the weight was scored as 4. Neutral; the weight was scored as 3. Disagree; the weight was scored as 2; and Strongly Disagree, the weight was scored as 1.

Research Statistics and Data Analysis

The research statistics were in three types:

- 1) The status of informants by frequency and percentages.
- 2) The analysis of education quality system management/creation of basic educational institutions in Khon Kaen as innovative organisations by mean (\bar{x}) and standard deviation (S.D.). The mean was obtained from the rating scale questionnaire data from the data analysis and was compared with the criteria.

The criteria for interpreting the mean, in summary, are as follows:

4.21-5.00 means efficiency and satisfaction are at the highest level.

3.41-4.20 means efficiency and satisfaction are at a high level.

2.61-3.40 mean efficiency and satisfaction are moderate.

1.81-2.60 means that efficiency and satisfaction are at a low level.

1.00-1.80 means that efficiency and satisfaction are at the lowest level.

where the spectral range is determined by the formula = $(5-1)/5 = 0.8$

- 3) The analysis of the education quality system management that affects the development of the basic education institutions as educational innovative organisations by Stepwise Multiple Regression Analysis.

Research Results

Analysis of the Education Quality System Management of Basic Education Institutions in Khon Kaen

We analyzed the obtained responses to the questionnaire by using mean (\bar{x}) and standard deviation. The returned responses were 386 copies from 52 schools--representing 97.72% of the total. The seven aspects with their level of the education quality system management of the basic education institutions in Khon Kaen are shown in Table 2.

Table 2 Mean Values, Standard Deviation and Levels of the Education Quality System Management of Basic Education institutions in Khon Kaen (X_{tot})

No.	Quality System Management (X_{tot})	\bar{x}	S.D.	Level
1	Leadership (X_1)	4.20	0.59	high
2	Strategic Planning (X_2)	4.32	0.51	highest
3	Student and Stakeholder Focus (X_3)	4.30	0.53	highest
4	Measurement, Analysis and Knowledge Management (X_4)	4.29	0.53	highest
5	Faculty and Staff Focus (X_5)	4.33	0.58	highest
6	Process Management (X_6)	4.28	0.57	highest
7	Performance Results (X_7)	4.36	0.51	highest
Total		4.30	0.53	highest

Table 2 shows the quality system management of the basic education institutions in Khon Kaen as a whole is at a high level ($\bar{x} = 4.30$, S.D. = 0.53). There was a high average in all aspects in a descending order: 1) performance results (X_7) ($\bar{x} = 4.36$, S.D. = 0.51), 2) faculty and staff

focus (X₅) (\bar{x} = 4.33, S.D. = 0.58), 3) strategic planning (X₂) (\bar{x} = 4.32, S.D. = 0.51), 4) student and stakeholder focus (X₃) (\bar{x} = 4.30, S.D. = 0.53), 5) measurement, analysis and knowledge management (X₄) (\bar{x} = 4.29, S.D. = 0.53), 6) process management (X₆) (\bar{x} = 4.28, S.D. = 0.57), and 7) leadership (X₁) (\bar{x} = 4.20, S.D. = 0.59), respectively.

Analysis of the Development of Basic Education Institutions as Educational Innovative Organisations in Khon Kaen

The analysis of the development of basic education institutions in Khon Kaen as education innovative organisation using mean and standard deviation from the sample of 386 participants is presented in Table 3.

Table 3 Mean, Deviations for the Development of Basic Education Institutions in Khon Kaen Provincias Educational Innovative Organisation (Y_{tot})

No.	Innovative Organisations Creation	\bar{x}	S.D.	level
1	Shared Vision, Leadership and the Will to Innovate (Y ₁)	4.26	0.60	highest
2	Appropriate Organisation Structure (Y ₂)	4.35	0.57	highest
3	Key Individual (Y ₃)	4.37	0.56	highest
4	High Involvement Innovation (Y ₄)	4.31	0.60	highest
5	Effective Teamwork (Y ₅)	4.34	0.58	highest
6	Creative Climate (Y ₆)	4.36	0.60	highest
7	Boundary Spanning (Y ₇)	4.19	0.62	high
8	Beyond the Steady State (Y ₈)	4.30	0.62	highest
Total		4.33	0.57	highest

Table 3 shows that the development of the basic education institutions in Khon Kaen as educational innovative organisation, as a whole, was at a high level (\bar{x} = 4.33 S.D. = 0.57); the mean was found to be high on all aspects in a descending order: (i) key individual (Y₃) (\bar{x} = 4.37, S.D. = 0.56), (ii) creative climate (Y₆) (\bar{x} = 4.36, S.D. = 0.60), (iii) effective teamwork (Y₅) (\bar{x} = 4.34, S.D. = 0.58), (iv) appropriate organisation structure (Y₂) (\bar{x} = 4.36, S.D. = 0.59), (v) high involvement innovation (Y₄) (\bar{x} = 4.31, S.D. = 0.60), (vi) beyond the steady state (Y₈) (\bar{x} = 4.30, S.D. = 0.62), (vii) shared vision, leadership and the will to innovate (Y₁) (\bar{x} = 4.26, S.D. = 0.60), and (viii) boundary spanning (Y₇) (\bar{x} = 4.19, S.D. = 0.62), respectively.

Analysis of Education Quality System Management Affecting Development of Basic Education Schools in Khon Kaen as Educational Innovative Organisations

The researchers used 386 responses to analyze the effects of quality system management on creating basic education institutions in Khon Kaen as educational innovative organizations. Before the analysis, the researchers conducted outliers called Case-Wise Diagnostics and found 13 abnormal case-wise data, thus eliminating them. The results are shown in Table 4 using stepwise multiple regression analysis.

Table 4 reveals the quality system management affecting the development of the basic education institutions in Khon Kaen as an educational innovative organisation. (Y_{tot}) sorted the five best forecasters: (i) performance results (X₇), (ii) strategic planning (X₂), (iii) process management (X₆), (iv) measurement, analysis and knowledge management (X₄), and (v) leadership (X₁), with a multiple correlation coefficient (multiple R) of 0.936, a coefficient of multiple determination value (R²) of 0.889, and an adjusted coefficient of multiple determination of 0.892. Strategic planning, process management, measurement, analysis and knowledge management and leadership appeared to predict the creation of the basic education institutions in Khon Kaen as an educational innovative organisation at 89.20% overall (Y_{tot}), which was written as a regression analysis equation as follows:

$$\hat{Y}_{tot} = 0.156 + 0.505X_7 + 0.112X_2 + 0.147X_6 + 0.134X_4 + 0.097X_1$$

Table 4 Multiple-Regression Analysis of the Education Quality System Management Affecting the Creation of Basic Education Institutions in Khon Kaen (Y_{tot}) as Educational Innovative Organisation

Source of Variation	Sum of Square	df	Mean Square	F	Sig.
Regression	84.226	5	17.045	561.326*	0.001
Residual	10.085	345	.030		
Total	94.311	350			

Multiple Correlation Coefficient (Multiple R) 0.936
Coefficient of Multiple Determination (R Square) 0.889
Adjusted Coefficient of Multiple Determination (Adjusted R Square) 0.892
Standard Error 0.168

Quality System Management variables that were entered.

Variable Entries	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.156	.083		1.814	0.71
Performance Results (X_7)	0.505	.042	.533	13.006*	.001
Strategic Planning (X_2)	0.112	.038	.110	2.847*	.005
Process Management (X_6)	0.147	.033	.162	4.398*	.001
Measurement, Analysis and Knowledge Management (X_4)	0.134	.033	.129	4.032*	.001
Leadership (X_1)	0.097	.027	.102	3.628*	.001

*Significant at the level .05

Conclusion and Discussion

Conclusion

- 1) The quality system management of the basic education institutions in Khon Kaen as a whole and in each aspect was at a high level and ranked in descending order: (i) performance results, (ii) staff focus, (iii) strategic planning, (iv) student and stakeholder focus, (v) measurement analysis and knowledge management, (vi) process management and (vii) leadership,
- 2) The creation of the basic education institutions in Khon Kaen as educational innovative organisation as a whole and each aspect was at a high level and ranked in descending order: (i) key individual, (ii) appropriate organisational structure, (iii) effective team work, (iv) creative climate, (v) high involvement innovation, (vi) boundary spanning, (vii) beyond the steady state, and (viii) shared vision, leadership and the will to innovate.
- 3) The education quality system management carried five variables: (i) outcomes, (ii) strategic planning, (iii) process management, (iv) measurement analysis, (v) knowledge management and leadership--all affecting the creation of the basic education institutions in Khon Kaen as educational innovative organisation as a whole at 89.20%, written as a regression analysis equation:

$$\hat{Y}_{tot} = 0.156 + 0.505X_7 + 0.112X_2 + 0.147X_6 + 0.134X_4 + 0.097X_1$$

Discussion

- 1) The education quality system management of the basic education institutions in Khon Kaen was high overall and individually. School management at the basic education level in the modern era certainly requires effective management systems and methods to benefit learners. School executives must plan their planning strategies, implement them, align personnel to suit the job (Organizing), and decentralise authority to colleagues (Empowerment). Sound executives must know how to control and evaluate their work thoroughly and fairly (Controlling). The current administrators of Khon Kaen Basic Education Institutions have been recognised for their knowledge and experience. The implementation of quality system

management by basic school administrators is considered to be of international standards as prescribed in the policy of the Office of the Basic Education Commission (OBEC) which has adopted the guidelines for the management of the quality system of educational institutions toward excellence according to the criteria of Thailand Quality Award (TQA). The requirements of a quality management system at the international standards are in seven categories: (i) Leadership, (ii) Strategic Planning, (iii) Student and Stakeholder Focus, (iv) Measurement, Analysis, and Knowledge Management, (v) Faculty and Staff Focus, (vi) Process Management, and (vii) Performance Results. Each category determines the course of action--how educational institutions should act. School executives must be good leaders, use key decision-making strategies, motivate, and build strength and encouragement for teachers to perform at their full capacity. More importantly, Khon Kaen is a city of education, and both district offices and local government organisations are committed to supporting education development with full responsibility. These points were also reported earlier by Kadphon (2015) on quality system management that affects the effectiveness of schools under the Office of Nakhon Pathom Primary which investigated Educational Service Area District Office 1 regarding the quality management of schools under the Office of Nakhon Pathom Primary Educational Service Area District Office 1 at a high level with ranks in a descending order: (i) organisational leadership, (ii) strategic planning, (iii) student and stakeholder focus, (iv) personnel focus, (v) process management, and (vi) measurement, analysis and knowledge management. Another study by Wattana (2018) proposed the basic school management model for school excellence under the provincial administration organisation. Wattana (2018) also identified six elements of school management for excellence: (i) executive leadership, (ii) teacher quality, (iii) strategic planning, (iv) collaboration network, (v) student quality and management, and (vi) personnel development. The findings from the earlier studies pointed to the significance of quality system management as examined in the present study.

2) This research revealed the creation of primary education institutions in Khon Kaen as educational organisations based on the overall picture and individual aspects at a high level. This could stem from school executives handling education management by the policy of the Office of the Basic Education Commission (OBEC) and Khon Kaen Provincial Administrative Organisation, emphasising innovations to meet school performance standards, and using digital transformation with unlimited interconnected communication. Transformational leaders highly value a shared vision with people, set ting the direction and implementing a clear innovation strategy, as well as determination and dedication to the identified goal-all to create innovations within the school.

The organization structure must be flexible at the appropriate level for promoting innovation. Information technology has been established to develop websites for affiliated offices and use innovative media and computer programs through online teleconferencing. School executives need to promote key personnel with knowledge of innovation and ensure that teachers possess innovation and technology skills. Participation in planning, creating and developing innovations and new technologies must be assigned to an effective team. Teachers need a good working environment that promotes creativity while having good connections and networks to facilitate knowledge sharing in the long run. Such findings were in line with Onsampant (2018) and Phakamach et al. (2022b) who presented the concept of creating an innovative organisation for basic education institutions in Thailand by using 12 elements: (i) School background, (ii) Shared vision and innovation goals, (iii) School implementation strategy, (iv) Executive leadership and decision making, (v) Appropriate organisational structure, (vi) Key personnel and personnel management, (vii) Effective teamwork, (viii) Communication and information management, (ix) Creative atmosphere, (x) Government and community support, (xi) Learning organisation, and (xii) Performance evaluation. Recently, Hirankittikorn & Kanthap (2022) also researched into the needs for innovative organisation of schools under the Phasi Charoen

District Office. It was found that the innovative organisational development guidelines of schools under the Office of Phasi Charoen District, Bangkok comprised six approaches: (i) The organisation's management should use the principle of decentralisation and encourage personnel to participate in decision-making and organizing a flexible and agile organisation structure; (ii) Personnel should be creative; (iii) Executives must develop a vision of innovation that is practical and drive the organisation through the management system; (iv) The organisation's executives are leaders with a way of developing personnel by defining the vision of the organisation for the staff to accept the direction toward innovations; (v) There must be a communication channel that promotes innovation; and (vi) The executives create an atmosphere of the organisation to support freedom of thought for the staff to innovate.

3) According to the research findings, five variables of education quality system management were identified: (i) performance results, (ii) strategic planning, (iii) process management, (iv) measurement, analysis and knowledge management, and (v) organisational leadership. These five variables impact the creation of basic education institutions in Khon Kaen as innovative educational organisations. Overall, 80.70% showed that quality management was of paramount importance. The participating school administrators have focused on quality system management, considering administrative outcomes regarding school performance evaluation. They used the assessment results to improve the academic and budget management and finances outcomes. The major findings of the present research were in line with the earlier work of Hunsapiromchoke & Karkaew (2014); Meeman & Wangthanomsak (2016) and Phakamach, Panjarattanakorn & Onsampant, (2023) on international standard schools in that the success of international standard schools included (i) curriculum, (ii) teaching and learning, (iii) quality management, and (iv) learner aspects.

It should be noted that the quality system management process variable affects an innovation organisation's creation. In this regard, strategic planning is vital to realise the school's vision. To the researchers of this present study, a SWOT analysis could help a strategic plan on technological progress, new knowledge, changing regulations, and direction to specific development in coping with the educational and social situation changes, as seen in the case of the COVID-19 pandemic. Another researcher, Pamuta (2016), also studied success factors in managing international standard primary schools under the Office of the Basic Education Commission. It was found that the level of success in school administration as a whole also relied on five elements as reported in the present study.

For the success of the school, it is the responsibility of the management to have three tasks: personnel management, organisation management, and process management, to achieve the quality of work as intended. Teachers' core competencies aligned with the school's mission excellence can help the school personnel to adjust teaching and learning methods at a critical time of the COVID-19 pandemic. As seen in the work of Chandi & Indraraks (2019), technological resources supported the quality system of Wat Maklua School (Kanchanalak Wittaya) at a high level by teaching and learning Online, On Hand, Onsite, and On Demand by qualified teachers.

As for the variable of measurement, analysis, and knowledge management affecting the creation of innovative educational organizations, the school administration has to turn digital. When Thailand faced the Covid-19 pandemic, teaching and learning arrangements had to change by going online while ensuring that teachers and students interacted sufficiently to create a positive remote teaching-learning atmosphere online and reasonable student performance assessment. Students are adequately assisted in reaching the expected learning outcomes. Chandi & Indraraks (2019) created academic templates available to users worldwide. Phothong et al. (2013); Sadeghi et al. (2019) and Panjarattanakorn et al. (2023). also supported the key elements, such as personnel/ organisation, budget and facilities, process,

organisational leadership, strategic planning, and knowledge management for teachers/students/parents.

Finally, from the research results, it can be determined that: by creating an educational organisation as an educational innovation organisation, administrators play a crucial role in defining and directing the organisation's direction to achieve its goals, which must be a person with professional transformational leadership. Have a management vision that is ready for sudden changes and fluctuations. Able to create an atmosphere of creative innovation by providing adequate support. Flexible organisational structure to be able to exchange and learn freely. Developing teachers and educational personnel to become internationally competent in creating and disseminating innovation. Furthermore, motivation and determination have been made for successful innovation and to become an educational innovator.

Suggestions for the Implementation of Research Results

The educational innovative organisational model in basic education institutions is a structured model with various elements applicable to school quality system management. As shown in this present study, the quality management factors that affect the creation of basic education institutions as educational innovative organizations could be selected to suit school contexts as appropriate.

Suggestions for Further Research

The school quality system in support of teachers and learners should be further explored to benefit the overall educational quality under the Office of the Primary/Secondary Education Area Office. In addition, those interested in the issues of education quality system management could update and expand the number the new variables that influence educational innovative organisations in the basic education institutions in the context of Thailand as well as that of the neighboring countries.

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