

# The Effect of Innovative Leadership on the Ubiquitous Organization of the School under the Office of Secondary Educational Service Area, Khon Kaen

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## Abstract

This study aimed to (1) examine the levels of innovative leadership among school administrators and ubiquitous organizations in schools, (2) investigate the relationship between innovative leadership and ubiquitous organizations, (3) identify the dimensions of innovative leadership that significantly influence ubiquitous organizations under the Office of Secondary Educational Service Area, Khon Kaen, and (4) develop guidelines for enhancing ubiquitous organizations.

An explanatory sequential mixed-methods design was employed. The quantitative phase involved 127 school administrators selected as the study participants. Data were analyzed using descriptive statistics, Pearson's product-moment correlation coefficient, and stepwise multiple regression analysis. The qualitative phase consisted of semi-structured interviews with three experts, and the data were analyzed using analytical induction.

The findings revealed that both innovative leadership and ubiquitous organizations were perceived at high levels. Correlation analysis indicated a statistically significant positive relationship between innovative leadership and ubiquitous organizations ( $p < .01$ ). Stepwise multiple regression analysis identified three dimensions of innovative leadership as significant predictors of ubiquitous organizations: vision ( $X_1$ ), innovation, networking, and teamwork ( $X_2$ ), and innovation risk management ( $X_4$ ). The final regression model yielded a multiple correlation coefficient ( $R$ ) of .863 and a coefficient of determination ( $R^2$ ) of .744, indicating that these three dimensions jointly explained 74.4% of the variance in ubiquitous organizations. The predictive equations were as follows:

Unstandardized regression equation:

$$Y = 1.354 + 0.417(X_1) + 0.182(X_2) + 0.095(X_4)$$

Standardized regression equation:

$$Z(Y) = 0.523Z(X_1) + 0.227Z(X_2) + 0.174Z(X_4)$$

The qualitative findings further generated four practical guidelines for developing ubiquitous organizations: strengthening digital communication, enhancing resource

management efficiency, improving monitoring and evaluation systems, and promoting flexible organizational structures.

**Keywords:** innovative leadership; ubiquitous organization; school administrators; educational leadership; secondary education

## Introduction

School administrators play a pivotal role in leading and advancing educational management to respond effectively to contemporary changes and achieve the goal of developing learners equipped with 21st-century competencies and digital skills, thereby promoting sustainable learning for the future (Thawinkarn, 2021). To maximize organizational effectiveness, school administrators must embrace continuous learning, adopt new concepts and approaches, engage in knowledge sharing, demonstrate visionary leadership, implement innovative strategies, and foster a culture of innovation within their schools. Consequently, innovative leadership has become an essential competency for school administrators in the digital era (Nanthasri, 2019).

Innovation has become a key driver of organizational success, making innovative leadership an indispensable attribute of contemporary educational leaders. Successfully initiating and sustaining organizational innovation requires not only effective management techniques but also strong leadership capabilities that inspire change and encourage creativity (Suwannawong, 2018). Similarly, Yosyingyong (2009) emphasized that innovative leaders possess the ability to transform organizational characteristics and behaviors to keep pace with an increasingly knowledge-based and innovation-driven society. Such leaders create value through continuous improvement, high-quality service delivery, and organizational adaptability. Innovative leadership encompasses a broad range of competencies, including the ability to solve complex problems, identify emerging opportunities, build collaborative relationships, establish organizational trust, and cultivate an environment that encourages innovation and creative management practices (Jongcharoen, 2019).

Innovative leadership also serves as a fundamental driver in the development of ubiquitous organizations through the effective integration of digital technologies into organizational management. This integration involves systematic planning, implementation, knowledge sharing, environmental design, and continuous assessment of organizational knowledge, skills, and experiences, enabling personnel to access information and perform their duties anytime and anywhere. The concept of a ubiquitous organization emphasizes seamless organizational management supported by integrated information systems that enhance operational flexibility, connectivity, and efficiency (Office of the Public Sector Development Commission, 2019).

Recognizing the importance of digital transformation, the Office of Secondary Educational Service Area, Khon Kaen, has established policies aimed at enhancing educational quality by promoting schools as ubiquitous organizations. These policies focus on developing flexible organizational structures, strengthening digital communication systems, establishing intelligent digital databases, and utilizing digital platforms as comprehensive information resources. Such initiatives support efficient resource management despite organizational constraints while facilitating continuous monitoring and evaluation through the “Link, Share, and Learn” mechanism (Khon Kaen Secondary Educational Service Area Office, 2023). This management approach enables personnel to work collaboratively toward common goals, adapt effectively to rapidly changing circumstances, improve operational efficiency and transparency, and promote sustainable organizational development. Furthermore, it enhances resource utilization, reduces communication and administrative costs, supports the

accumulation and sharing of organizational knowledge, and creates borderless learning environments that foster continuous organizational learning (Khon Kaen Secondary Educational Service Area Office, 2023).

Given the growing importance of digital transformation, organizational challenges, and educational policies promoting ubiquitous organizations, innovative leadership has become a critical mechanism for enhancing school effectiveness and organizational sustainability. School administrators equipped with innovative leadership are better positioned to transform their schools into dynamic learning organizations capable of meeting national and global educational expectations. Therefore, this study investigates the effects of innovative leadership on the development of ubiquitous organizations in schools under the Office of Secondary Educational Service Area, Khon Kaen. The findings are expected to provide empirical evidence and practical guidelines for strengthening ubiquitous organizations and enhancing the effectiveness and efficiency of educational management in the digital era.

## Literature Review

In this study, the researcher synthesised the independent variable, namely innovative leadership, based primarily on a review of related Saenchanda, T. & Boontham, T. (2021) and Klinthaisong, P. (2016). The dependent variable, namely the Ubiquitous Organization, was synthesised primarily from related documents and previous studies by Chaiyaphai, S. (2023) and Supsutthi, J. (2015)

The conceptual framework of the study can be illustrated as follows.

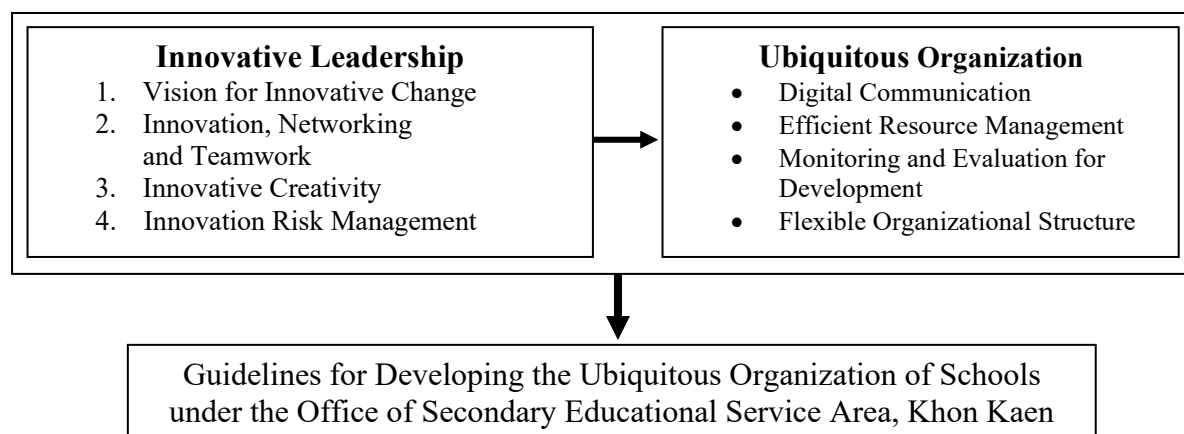


Figure 1. Conceptual Framework of the Research

## Methodology

This study employed a mixed-methods research design. The research was conducted in two phases: Phase 1 (quantitative) and Phase 2 (qualitative). Phase utilises a quantitative research approach conducted to examine the innovative leadership of school administrators that affects the Ubiquitous Organization of schools under the Office of Secondary Educational Service Area Khon Kaen.

## **Phase 1: Quantitative Research**

### **Population and Sample**

The population of this study consisted of school administrators under the Office of Secondary Educational Service Area Khon Kaen in the 2023 academic year, comprising 84 schools with a total of 189 administrators.

The sample for this study consisted of 127 school administrators. The sample size was determined using the Krejcie, R. V., & Morgan, D. W. (1970) sample size table at a 95% confidence level. A two-stage cluster sampling method was employed. In the first stage, Stratified random sampling was conducted based on school size, categorised into small-, medium-, and large-sized schools, with proportional sampling applied to each category. In the second stage, Simple random sampling was then conducted to select the participants.

### **Research Instrument**

The research instrument was a questionnaire, which consisted of the following sections:

Part 1: General information of the respondents, including name, gender, age, position, and work experience.

Part 2- 3 : A five-point rating scale questionnaire regarding the innovative leadership of school administrators and Ubiquitous Organization.

The interpretation of mean scores followed the criteria proposed by Boonchom Srisard (2002)

4.51 - 5.00 = Very high level

3.51 - 4.50 = High level

2.51 - 3.50 = Moderate level

1.51 - 2.50 = Low level

1.00 - 1.50 = Very low level

### **Validity and Reliability**

The questionnaire's validity was assessed by three experts to evaluate content validity, yielding an Index of Item-Objective Congruence (IOC) of 1.00, indicating that the instrument was appropriate for use. To assess reliability, the validated questionnaire was revised based on the experts' recommendations and then pilot-tested with 30 school administrators who were not part of the sample. The reliability coefficient was calculated using Cronbach's alpha coefficient (Cronbach, 1990). The overall reliability coefficient of the questionnaire was 0.95, indicating high internal consistency.

### **Data Collection**

Data were collected using online questionnaires administered via Google Forms to school administrators under the Office of Secondary Educational Service Area Khon Kaen.

### **Data Analysis**

Quantitative data were analysed using SPSS statistical software. Descriptive statistics included percentages, means, and standard deviations. Inferential statistics included Pearson's product-moment correlation coefficients and stepwise multiple regression analysis. The results were presented in tabular form accompanied by descriptive explanations.

## **Phase 2: Qualitative Research**

### **Participants**

The key informant consisted of three experts, selected using purposive sampling to ensure the data collected were relevant, comprehensive, and aligned with the research objectives. The qualifications of the informants were as follows:

1) At least five years of experience as an educational administrator or school administrator.

2) Holding a master's degree or higher.  
3) Evidence of innovation in driving effective and efficient school management.

### Research Instrument and Data Collection

The research instrument used in this phase was a semi-structured interview designed to explore guidelines for enhancing Ubiquitous Organizations in schools. Data were collected through in-depth interviews.

### Data Analysis

Qualitative data obtained from the interviews were analysed using content analysis. The findings were presented descriptively to reflect participants' perspectives and experiences regarding the promotion of Ubiquitous Organizations in schools

## Results

The findings of this study are presented in accordance with the research objectives and are organised into four main sections: (1) the level of Innovative Leadership practised by school administrators and the level of Ubiquitous Organization of Schools; (2) the relationship between Innovative Leadership and Ubiquitous Organization of Schools; (3) the effects of Innovative Leadership on the Ubiquitous Organization of Schools; and (4) Guidelines for Developing the Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area Khon Kaen.

### 1. Levels of Innovative Leadership and Ubiquitous Organization of Schools

1.1 The research findings revealed that the overall level of innovative leadership of school administrators was at a high level ( $\bar{x} = 4.44$ , S.D. = 0.70). When examined in detail, the component with the highest mean score was "vision for innovative change" ( $\bar{x} = 4.54$ , S.D. = 0.60), followed by "innovation, networking, and teamwork" ( $\bar{x} = 4.46$ , S.D. = 0.60). The component with the lowest mean score was "innovative creativity" ( $\bar{x} = 4.35$ , S.D. = 0.70), as shown in Table 1.(see Table 1).

Table 1: Mean ( $\bar{x}$ ) and Standard Deviation (S.D.) of the Level of Practice of Innovative Leadership (Overall)

| Innovative Leadership                            | Level of Practice  |             |                |
|--------------------------------------------------|--------------------|-------------|----------------|
|                                                  | Mean ( $\bar{x}$ ) | S.D.        | Interpretation |
| 1. Vision for Innovative Change ( $X_1$ )        | 4.52               | 0.60        | Very High      |
| 2. Innovation, Networking and Teamwork ( $X_2$ ) | 4.46               | 0.60        | High           |
| 3. Innovative Creativity ( $X_3$ )               | 4.35               | 0.70        | High           |
| 4. Innovation Risk Management ( $X_4$ )          | 4.40               | 0.88        | High           |
| <b>Overall</b>                                   | <b>4.44</b>        | <b>0.70</b> | <b>High</b>    |

### 1.2 Level of Ubiquitous Organization of Schools

The results of the analysis indicated that the overall level of the Ubiquitous Organization was at a high level ( $\bar{x} = 4.47$ , S.D. = 0.48). When examined in detail, the component with the highest mean score was "digital communication" ( $\bar{x} = 4.55$ , S.D. = 0.58), while the component with the lowest mean score was "monitoring and evaluation for development" ( $\bar{x} = 4.41$ , S.D. = 0.71), as shown in Table 2 .(see Table 2).

Table 2: Mean ( $\bar{x}$ ) and Standard Deviation (S.D.) of the Level of Practice of Ubiquitous Organization of Schools (Overall)

| Ubiquitous Organization                     | Level of Practice  |             |                |
|---------------------------------------------|--------------------|-------------|----------------|
|                                             | Mean ( $\bar{x}$ ) | S.D.        | Interpretation |
| 1.Digital Communication                     | 4.55               | 0.58        | Very High      |
| 2.Efficient Resource Management             | 4.47               | 0.67        | High           |
| 3.Monitoring and Evaluation for Development | 4.41               | 0.71        | High           |
| 4.Flexible Organizational Structure         | 4.43               | 0.71        | High           |
| <b>Overall</b>                              | <b>4.47</b>        | <b>0.48</b> | <b>High</b>    |

## 2. Relationship between Innovative Leadership of School Administrators and the Ubiquitous Organization of Schools

Pearson's product-moment correlation analysis revealed that Innovative Leadership of School Administrators was positively correlated with Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area Khon Kaen at the .01 level of statistical significance. The correlation coefficients ranged from 0.730 to 0.838

Among these dimensions, vision for innovative change demonstrated the highest correlation with the Ubiquitous Organization ( $r = 0.838$ ), followed by innovation networking and teamwork ( $r = 0.792$ ), innovative creativity ( $r = 0.763$ ), and the dimension with the lowest correlation with the Ubiquitous Organization was innovation risk management ( $r = 0.730$ ), as shown in Table 3.

Table 3: Results of the Analysis of the Relationship between Innovative Leadership of School Administrators and the Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area Khon Kaen

| Variables      | X <sub>1</sub> | X <sub>2</sub> | X <sub>3</sub> | X <sub>4</sub> | Y |
|----------------|----------------|----------------|----------------|----------------|---|
| X <sub>1</sub> | 1              |                |                |                |   |
| X <sub>2</sub> | .828**         | 1              |                |                |   |
| X <sub>3</sub> | .843**         | .807**         | 1              |                |   |
| X <sub>4</sub> | .733**         | .763**         | .802**         | 1              |   |
| Y              | .838**         | .792**         | .763**         | .730**         | 1 |

\*\* Correlation is significant at the .01 level (2-tailed).

Where: X<sub>1</sub> = Vision for Innovative Change, X<sub>2</sub> = Innovation, Networking and Teamwork, X<sub>3</sub> = Innovative Creativity, X<sub>4</sub> = Innovation Risk Management, X<sub>all</sub> = Innovative Leadership Y = Ubiquitous Organization of Schools

## 3. Effects of Innovative Leadership of School Administrators on Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area, Khon Kaen

The analysis of the multiple correlation coefficient ( $r$ ) and the stepwise multiple regression coefficients of innovative leadership affecting the Ubiquitous Organization of schools under the Office of Secondary Educational Service Area Khon Kaen was conducted in order to predict which independent variables could best jointly identify the dependent variable. The statistical technique employed was stepwise multiple regression analysis.

The results indicated that, among the four dimensions of innovative leadership considered as potential predictors, three independent variables were found to be statistically significant. These variables were: vision for innovative change ( $X_1$ ), innovation networking and teamwork ( $X_2$ ), and innovation risk management ( $X_4$ ). The multiple correlation coefficient ( $R$ ) obtained was 0.863.

An examination of the coefficient of determination ( $R^2$ ) revealed the following:

- Model 1: When “vision for innovative change” ( $X_1$ ) was entered alone into the first regression model, it accounted for 70.20% of the variance in the Ubiquitous Organization of schools ( $R^2 = 0.702$ ).

- Model 2: When “innovation, networking and teamwork” ( $X_2$ ) was subsequently added, the predictive power increased to 73.30% ( $R^2 = 0.733$ ).

- Model 3: Furthermore, when “innovation risk management” ( $X_4$ ) was included, the total explained variance increased to 74.40% ( $R^2 = 0.744$ ).

These results indicate that all three predictor variables significantly affected the Ubiquitous Organization of schools under the Office of Secondary Educational Service Area Khon Kaen at the .05 level of statistical significance, shown in Table 4.

Table 4: Results of the Analysis of the Multiple Correlation Coefficient ( $R$ ) and Stepwise Multiple Regression Analysis, as

| Predictor variables   | R     | $R^2$ | Adjusted $R^2$ | Std. error | F       | P-value |
|-----------------------|-------|-------|----------------|------------|---------|---------|
| $X_1$                 | 0.838 | 0.702 | 0.700          | 0.262      | 294.590 | .000    |
| $X_1$ & $X_2$         | 0.856 | 0.733 | 0.728          | 0.249      | 14.230  | .000    |
| $X_1$ & $X_2$ & $X_4$ | 0.863 | 0.744 | 0.738          | 0.245      | 5.600   | .019    |

\*\* $P < 0.05$

Based on the regression coefficients of the predictor variables in unstandardized form ( $B$ ) and standardized form ( $\beta$ ), the results indicated that when three dimensions of innovative leadership were entered into the regression equation, the multiple correlation coefficient was 0.863 ( $R = 0.863$ ), with statistical significance at the .05 level. The coefficient of determination was 74.40% ( $R^2 = 0.744$ ), as shown in Table 5.

Table 5: Regression Coefficients of the Predictor Variables in Unstandardized Form ( $B$ ) and Standardised Form ( $\beta$ )

| Variables                                                             | Raw Scores |            | Standardized coefficients | t     | P-value |
|-----------------------------------------------------------------------|------------|------------|---------------------------|-------|---------|
|                                                                       | B          | Std. error | $\beta$                   |       |         |
| (Constant)                                                            | 1.354      | 0.177      | -                         | 7.627 | .000    |
| $X_1$                                                                 | 0.417      | 0.068      | 0.523                     | 6.168 | .000    |
| $X_2$                                                                 | 0.182      | 0.072      | 0.227                     | 2.543 | .012    |
| $X_4$                                                                 | 0.095      | 0.040      | 0.174                     | 2.367 | .019    |
| $R=0.863$ $R^2 = 0.744$ . Adjusted $R^2 = 0.738$ Std. error = 0.24496 |            |            |                           |       |         |

The predictive equations can be constructed based on the regression coefficients of the variables in unstandardized form ( $B$ ) and standardised form ( $\beta$ ) as follows:

The predictive equation in unstandardized form is as follows:

$$Y = 1.354 + 0.417(X_1) + 0.182(X_2) + 0.095(X_4)$$

The predictive equation in standardised form is as follows:

$$Z(Y) = 0.523Z(X_1) + 0.227Z(X_2) + 0.174Z(X_4)$$

#### **4. Guidelines for Developing the Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area, Khon Kaen**

Based on the analysis and synthesis of guidelines derived from interviews with three experts, the findings revealed that four components are essential for developing schools into leading Organizations and Ubiquitous Organizations. The components are as follows:

##### **1) Digital Communication**

School administrators must communicate to raise awareness, understanding, and shared recognition, and to establish a shared vision for innovative change among school personnel. Administrators should persuade, motivate, and facilitate the adoption of digital technologies that enable work to be performed “anytime and anywhere”. Furthermore, convenient and rapid online communication channels should be established with stakeholders to ensure concrete and practical implementation.

##### **2) Efficient Resource Management**

School administrators and personnel should analyse the Organizational environment and synthesise these findings into their specific context through SWOT analysis. Policies should be translated into practice through an innovative approach—specifically, the development of innovations aligned with each school’s unique context—leading to “best practices”. This also includes managing limited resources economically and simply to achieve maximum benefit.

##### **3) Monitoring and Evaluation for Development**

Schools should demonstrate flexibility and preparedness in risk response, with comprehensive planning for preventive and corrective measures. Digital technologies should be utilised to evaluate school operations through diverse, data-driven approaches. Additionally, innovation networks should be established to support systematic and participatory monitoring and evaluation processes.

##### **4) Flexible Organizational Structure**

Organizational structures should be adjusted to align with the contemporary global context and to respond effectively to potential risks. The work culture must be adapted to become more flexible, autonomous, and rapid. Furthermore, decision-making authority should be decentralised to reduce procedural layers in communication and coordination.

## **Conclusion and Discussion**

### **1. Level of Innovative Leadership of School Administrators and Level of Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area Khon Kaen**

#### **1.1 Level of Innovative Leadership of School Administrators**

The results of the analysis indicated that the overall level of innovative leadership among school administrators under the Office of Secondary Educational Service Area Khon Kaen was at a high level. Among the specific components, vision for innovative change recorded the highest mean score. This high performance can be attributed to the proactive policies of the Office of Secondary Educational Service Area Khon Kaen and the implementation of the Siao smart plus Model management framework.

Under this model, service area administrators and school leaders share a unified vision, which supports the development of “innovative pathways” tailored to individual school contexts. These efforts result in the creation of concrete “best practices” and are further

bolstered by knowledge-exchange activities that facilitate continuous professional development. These findings align with Nanthasri (2019), who concluded that to achieve maximum management effectiveness, school administrators must embrace new concepts, engage in knowledge exchange, and drive institutional growth through visionary strategies.

Conversely, the component with the lowest mean score was innovative creativity. This suggests that administrators may require additional time and experience to bridge the gap between imagination and the translation of ideas into tangible, practical innovations. This process often involves “learning by experimentation” or a degree of “trial and error” (Dyer, Gregersen, & Christensen, 2011). However, cultivating an innovative imagination is an essential prerequisite for developing effective leadership in modern schools.

### **1.2 Level of Ubiquitous Organization of Schools**

The research findings revealed that the overall level of the Ubiquitous Organization of schools was rated at a high level across all dimensions. This success is likely due to the Office of Secondary Educational Service Area Khon Kaen establishing a clear strategic direction that prioritises the “Ubiquitous” model. Consequently, school administrators have successfully raised awareness, established shared Organizational visions, and integrated technology into systematic management processes. This shift has expanded online communication channels and enabled work to be performed conveniently “anytime and anywhere.”

These findings are consistent with the work of Chaiphai, S. (2023), who identified digital communication, efficient resource management, and flexible Organizational structures as the key pillars enabling schools to achieve a ubiquitous model.

The component with the lowest mean score in this section was flexible Organizational structure. This result indicates that while technology is being adopted, administrators still face challenges in adjusting formal structures to meet contemporary demands. To enhance efficiency, there is a need for more autonomous designs, the development of rapid internal communication networks, and the decentralisation of decision-making to reduce procedural layers. This aligns with Sittichai, K., & Pooripakdee, S. (2018), who argued that flexible Organizational structures—characterised by flat designs and reduced hierarchy—are essential for enhancing operational efficiency in the digital age

## **2. Relationship between Innovative Leadership of School Administrators and the Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area, Khon Kaen**

The findings regarding the relationship between the innovative leadership of school administrators and the Ubiquitous Organization of schools under the Office of Secondary Educational Service Area Khon Kaen indicated a positive and statistically significant correlation ( $p < .01$ ). The correlation coefficients ranged from 0.730 to 0.838, which strongly supports the research hypotheses.

This significant relationship can be explained by the strategic policies and the exemplary management model implemented by the Office of Secondary Educational Service Area Khon Kaen, specifically the Siao smart plus Model. This framework emphasises a shared vision for innovative change between service area administrators and school leaders. Consequently, school administrators are better prepared to address complex problems, connect existing innovations to their professional imagination, and develop “innovative pathways” tailored to their specific institutional contexts. These innovations are translated into concrete “best practices” and are further supported through knowledge-sharing activities that enhance Organizational preparedness for future risks (Office of Secondary Educational Service Area Khon Kaen, 2022).

### **3) Innovative Leadership of School Administrators Affecting Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area, Khon Kaen**

The findings indicated that vision for innovative change, innovation networking and teamwork, and innovation risk management jointly predicted the Ubiquitous Organization of schools under the Office of Secondary Educational Service Area Khon Kaen. These three factors accounted for 74.4% of the variance, with statistical significance at the .05 level.

Among these factors, vision for innovative change ( $X_1$ ) emerged as the first and strongest predictor, accounting for 70.2% of the predictive power. This is because administrators' vision for innovative change can stimulate, persuade, and motivate personnel, creating a shared understanding of the school's goals and fostering a work environment conducive to concrete achievement. These findings are consistent with Nichapha Sunthornchai et al. (2018), who studied innovative leadership among private school administrators in Kalasin Province and found that the ability to communicate a shared vision with all stakeholders was the most critical priority.

Innovation, networking, and teamwork ( $X_2$ ) was the second predictor, increasing the predictive power to 73.3%. This can be attributed to administrators' communication skills and their ability to build collaborative relationships, which foster satisfaction, trust, and confidence among personnel. These findings align with Hamontri, N., & Ruphan, P. (2022) who emphasise teamwork and participation as the highest dimensions of innovative leadership among school administrators.

Innovation risk management ( $X_4$ ) was the third predictor, raising the total predictive power to 74.4%. This suggests that administrators who demonstrate agile decision-making, courage in accepting outcomes, and preparedness for complex future risks can effectively guide schools toward sustainable development. These findings align with the study of Klinthaisong, P. (2016), who found that risk-taking was a heavily weighted component of innovative leadership, necessitating a determination to embrace change and attempt new approaches.

Conversely, innovative creativity did not predict the Ubiquitous Organization of schools. This may be because, within the specific context of the Office of Secondary Educational Service Area Khon Kaen, structured innovative pathways and policy-driven frameworks hold greater weight than individual creative imagination. This is consistent with Jongcharoen, K. (2019), who reported that innovative creativity and imagination of ten recorded the lowest mean scores in studies of creative leadership among basic education school administrators in Bangkok and surrounding areas.

### **4) Guidelines for Developing the Ubiquitous Organization of Schools under the Office of Secondary Educational Service Area, Khon Kaen**

The synthesis of guidelines for developing the Ubiquitous Organization of schools, experts' interviews, indicates that the four core components-digital communication, efficient resource management, monitoring and evaluation, and flexible Organizational structure-are critical for advancing schools toward becoming modern, Ubiquitous Organizations.

Administrators must communicate to raise awareness, establish a shared Organizational vision, and emphasise the necessity of transformation. Schools should analyse their specific contexts, translate policies into practice, and develop "innovative pathways" that lead to best practices. Essential factors include rapid communication, unrestricted work across time and space, streamlined procedures, and systematic flexibility supported by digital technology. Furthermore, evaluation results should be promptly utilised for continuous improvement.

In addition to the core components, expert interviews identified two additional elements that are vital for development, consistent with the findings of Chaiphai, S. (2023)

## Recommendation

### Recommendations for the Application of the Research Findings

1) School administrators should utilise these findings to prioritise self-development in the critical areas of vision for innovative change, innovation networking and teamwork, and innovation risk management. These specific competencies are essential for cultivating the innovative leadership required to drive schools toward becoming sustainable, Ubiquitous Organizations.

2) Administrators should apply the research findings to enhance digital communication, efficient resource management, and flexible Organizational structures. Strengthening these areas ensures that operational processes remain agile and aligned with institutional missions, enabling schools to deliver education effectively in a “anytime and anywhere” environment.

3) School and educational administrators can adopt the identified development guidelines as a strategic roadmap for their own institutions. By implementing these tailored guidelines, they can systematically elevate their schools into high-functioning, Ubiquitous Organizations.

4) Given that vision, teamwork, and risk management were found to be significant predictors of success, the Office of Secondary Educational Service Area Khon Kaen should focus on developing these components through concrete and practical training programmes to facilitate the transition to ubiquitous models.

5) Educational service area offices should adopt these guidelines as formal policy frameworks. This would provide a structured approach for schools under their jurisdiction to implement Ubiquitous Organizational policies, ensuring long-term sustainability and educational excellence.

### Recommendations for Future Research

1) Case Study Implementation: Future researchers are encouraged to apply the components identified in this study as longitudinal case studies. Observing these components during practical implementation will help refine the conceptual framework and contribute to the documentation of “best practices” in diverse school environments.

2) Variable Expansion: Subsequent studies should extend this research by examining additional latent variables that may influence Organizational outcomes. Further development of specific indicators for both innovative leadership and the Ubiquitous Organization would provide more granular data for practical application.

3) Model Development: Further research should focus on developing and testing specific intervention models based on vision for innovative change, innovation networking and teamwork, and innovation risk management. Designing these models will provide administrators with practical tools to significantly enhance the “ubiquitousness” of their schools and, ultimately, improve student outcomes.

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