The Scenario on Using ICT for Academic Affairs Management of Primary Schools in the Next Decade (2022-2031)
อนาคตภาพการใช้เทคโนโลยีสารสนเทศและการสื่อสารในการบริหารงานวิชาการของโรงเรียนประถมศึกษาในทศวรรษหน้า (พ.ศ.2565–2574)

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาอนาคตภาพการใช้เทคโนโลยีสารสนเทศ และการสื่อสารในการบริหารงานวิชาการของโรงเรียนประถมศึกษาในทศวรรษหน้า (พ.ศ.2565-2574) การศึกษานี้เป็นการวิจัยอนาคตเชิงชาติพันธุ์วรรณา โดยใช้เทคนิคเดลฟาย โดยศึกษาจากผู้เชี่ยวชาญ จำนวน 20 คน ที่มาจากการเลือกแบบเจาะจง วิเคราะห์ข้อมูลโดยใช้มัธยฐาน ฐานนิยม และพิสัยระหว่างควอไทล์ คณะผู้วิจัยสร้างกงล้ออนาคตหลังจากเทคนิคเดลฟาย ผู้บริหารโรงเรียนประถมศึกษาจำนวน 380 คน ที่มาจากการสุ่มกลุ่มตัวอย่างแบบกลุ่ม วิเคราะห์ข้อมูลโดยการแจกแจงความถี่ และร้อยละ ผลการวิจัยพบว่าอนาคตภาพการใช้เทคโนโลยีสารสนเทศ และการสื่อสารในการบริหารงานวิชาการของโรงเรียนประถมศึกษาในทศวรรษหน้า (พ.ศ.2565-2574) มีฉันทามติ 32 อนาคตภาพ และมีผลกระทบระหว่างกันสูงมาก

คำสำคัญ : อนาคตภาพ ; การใช้เทคโนโลยีสารสนเทศ และการสื่อสารในการบริหารงานวิชาการของโรงเรียนประถมศึกษา ; การวิจัยอนาคตเชิงชาติพันธุ์วรรณาโดยใช้เทคนิคเดลฟาย ; กงล้ออนาคต ; การวิเคราะห์ภาคตัดขวาง

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ABSTRACT

The purpose of this research was to study the scenario of using information and communication technology (ICT) for academic affairs management of primary schools in the next decade (2022-2031). This study implemented the ethnographic futures research using Delphi technique. 20 experts were examined the perspectives using the purposive selection. The data was analyzed using Median, Mode, and Inter-quartile Range. The future wheels were created after Delphi technique. The samples were 380 school administrators using cluster random sampling. The data was analyzed using frequency and percentage. The research results found that there were 32 consentient scenarios on using ICT for academic affairs management of primary schools in the next decade (2022-2031) and there was a very high impact among each scenario.

Keywords : Scenario ; Using ICT for Academic Affairs Management of Primary Schools ; Ethnographic Futures Research Using Delphi Technique ; Future Wheels ; Cross Section Analysis

Introduction

Information and Communication Technology (ICT) had created changes of world economics and society in many aspects. (Phanitchakul, 2006). The power of technology made many countries in this world connected and they were able to communicate quickly; there is no limit on time and/or place. It made the borderless world or globalization happen. (Chiangkoon, 2002). Thailand, for example, has utilized technology to apply in many areas throughout the previous 20 years. It has distributed in multiple sectors, such as business, agriculture, industry, administration, politics, as well as education. Technology has been used in personnel recruitment and examining key aspects of worker potential in work development. This adds to the level of importance to utilizing ICT technology. It influences to learning and education in the future is going to provide multiple opportunities to all constituents. These opportunities will facilitate life-long learning, update data, news, expand new knowledge, and support self-directed learning and imagination. (Rueangsuwan, 1990). The most effective way to institute this change is through education. Educational change is the best way to strengthen the government system and support the development of Thai people to be important human capital in the future. The new society has to have a successful educational system as its goal, if its people are to succeed. The new society is an expected society, which consists of three important dimensions. They are comprised of learning society, ready society for world-wide competition, and virtual society (Kaewdaeng, 1997).

The Office of Basic Education Commission is comprised of many different school sizes, readiness levels, and various competencies. In addition, the educational system has been reformed to decentralize the authority of educational administration from central control and has been given back to schools, forming local administrative organizations and communities. These strategies are the primary instruments used to enhance the education management effectiveness for serving the needs of stakeholders. (Rooncharoen, 2007). The decentralization and educational administration were comprised of academic affairs, budgets, personnel, and general affairs. They distributed the authority to local schools and educational service areas directly. By doing this, they transformed the educational administration framework. The schools now had jurisdiction to manage these four key areas; academic affairs, budget, personnel, and general affairs had the autonomy to manage human resources. Because local schools now had control of these elements, school developed their own autonomy in the areas of management, which gave them strength, agility, and speed, in which to make decisions and process data. They were

now examining the needs of the learner, the local school and community, as well as the country (Sanguannam, 2008 ; Ministry of Education, 2003). However, by giving control back to the local schools, this now had a huge impact on the school administrators' abilities to effectively manage the school. Although the school administration has been provided jurisdiction oversight of the school, they needed reliable data, but more importantly, skills in data and information system management, knowing data and information usages for management, and making decisions, planning, and operating under the plan, implementing and enforcing laws and related rules, creating management and decision-making teams, developing a clear accounting system, displaying transparent management practices, and being honest and accountable to all constituents (Ministry of Education, 2006; Office of education Commission Secretary, 2003).

From the actual status of changes in world economics and society, the leaders can now focus on country development, leading to a more knowledgeable society which is economically and culturally characterised by a high degree of dependency on its potentials to create scientific and technological knowledge. They are now responsible for channeling the production, storage, and distribution of information to increase success for all involved. The access to this knowledge is a key factor of development. It must include the national master plan of ICT. The national master plan of ICT has focused on using ICT to assist the educational administration and using ICT by schools in Thailand. The researcher wanted to study the scenario on using ICT for academic affairs management of primary schools in the next decade (2022-2031). The research question was, "How to plan to use ICT for academic affairs management of primary schools in the next decade? Hopefully, this study will provide the guidelines for the primary schools in all over Thailand that will be using ICT in academic affairs management and enhancing the quality of Thai education.

Objective

The research objective of this research was to study the scenario on using ICT for academic affairs management of primary schools in the next decade (2022-2031).

Literature Review

This review examines research related to a study of the scenario on using ICT for academic affairs management of primary schools in the next decade (2022-2031). All of the research methodology of the scenario on academic affairs management of primary schools has taken place. The review covers five topics:

1. Futures Research
2. Delphi Technique
3. Ethnographic Interviewing Technique
4. Cross Impact Analysis
5. Ethnographic Delphi Futures Research

Futures Research

This research is a futures research that can be defined as a systematic study of possible future events and circumstances. Futures research is different from forecasting in a way that the former has a forward orientation and looks ahead, rather that backwards, and is not as mathematical as forecasting. Future research is needed regarding which methods of preference assessment are most appropriate. We did not evaluate which preference assessment methods are most appropriate; rather we used available

relative weights. Future work comparing the elicitation of relative weights for various outcomes using methods such as the analytic hierarchy process or conjoint analysis would also be informative. In the absence of a gold standard method for elicitation of preferences, such research should assess the concordance or discordance of relative weights generated using various methods. Similarly, an important issue is to consider whose preferences a study assesses, and whether there is variability in these preferences across important subgroups or patient profiles. Future research on these and other quantitative approaches (such as probabilistic simulation and multicriteria decision analysis) should consider appropriate methods of capturing and conveying the uncertainty around the benefit and harm assessment. This uncertainty relates to many of the identified methodological challenges and future research directions described here. Future evaluation should include a comparison of a larger number of quantitative approaches for benefit and harm assessment other than the two presented in this report. In the absence of a gold and enhancing the quality of Thai education, standard, reliability and consistency in results across various quantitative approaches for assessing benefits and harms may increase our confidence in their results (Dudovskiy, 2018).

Delphi Technique

The Delphi method was used in this research that is a forecasting process framework based on the results of multiple rounds of questionnaires sent to a panel of experts. Several rounds of questionnaires are sent out to the group of experts, and the anonymous responses are aggregated and shared with the group after each round. The experts are allowed to adjust their answers in subsequent rounds, based on how they interpret the "group response" that has been provided to them. Since multiple rounds of questions are asked and the panel is told what the group thinks as a whole, the Delphi method seeks to reach the correct response through consensus. The Delphi method was originally conceived in the 1950s by Olaf Helmer and Norman Dalkey of the Rand Corporation. The name refers to the Oracle of Delphi, a priestess at a temple of Apollo in ancient Greece known for her prophecies. The Delphi method allows experts to work toward a mutual agreement by conducting a circulating series of questionnaires and releasing related feedback to further the discussion with each subsequent round. The experts' responses shift as rounds are completed based on the information brought forth by other experts participating in the analysis. The Delphi method seeks to aggregate opinions from a diverse set of experts, and it can be done without having to bring everyone together for a physical meeting. Since the responses of the participants are anonymous, individual panelists don't have to worry about repercussions for their opinions. Consensus can be reached over time as opinions are swayed, making the method very effective. However, while the Delphi method allows for commentary from a diverse group of participants, it does not result in the same sort of interactions as a live discussion. A live discussion can sometimes produce a better example of consensus, as ideas and perceptions are introduced, broken down and reassessed. Response times with the Delphi method can be long, which slows the rate of discussion. It is also possible that the information received back from the experts will provide no innate value (Rand Cooperation, 2020).

Ethnographic Interview Technique

The Ethnographic interviewing used for collecting data that is a type of qualitative research that combines immersive observation and directed one-on-one interviews. In anthropology, ethnographic researchers spend years living immersed in the cultures they study in order to understand behaviors and social rituals of an entire culture. Ethnographic interviewers apply this technique on a micro level to understand the behaviors and rituals of people interacting with individual products. Contextual Inquiry is

an ethnographic interviewing technique that is used to gather qualitative data about users and their goals. The interviewer goes to the user and interviews them at the place where the user uses the product and/or does the work under study. The idea is to interview users in their natural setting, while they are performing their tasks, asking them questions about what they are doing and why (when necessary) along the way. Observing users as they perform activities and questioning them in their environments can bring important details of the behaviors to light (Amann, 2009).

Cross Impact Analysis

The scenario verification of this research was used the cross impact analysis. It is a method used in forecasting exercises aimed at measuring the correlation between future events (variables). Mainly in the field of technological developments, CIA is applied to identify how developments in one area interact with those in another, how strong the mutual influence is and in how far it affects the outcome of others. CIA's main asset is its ability to show how one situation impacts another situation. CIA is commonly based on expert opinion, exploring the likelihood of an event or trend and its dependency on the occurrence of other developments or impacts. Thereby, points of agreement or divergence between experts can be identified. It is often thought of as an extension of the Delphi Survey and frequently used in scenario analyses (Simon and Motavelle, 2006). Cross impact analysis involves constructing a matrix to show the interdependencies of different events and basically includes the following steps:

1. Identification of events and trends to be considered (usually between 10-30) and experts to be questioned
2. Estimating the probability for each event (in isolation of the others)
3. Calculating the probability of each event in dependence of the others
4. Sensitivity analysis
5. Generation of scenarios and the CIA matrix.

The matrix lists the set of events or trends that may occur along the rows, and the events or trends that would possibly be affected by the row events along the columns. Respondents are then required to assess how the occurrences in each of the rows affect the probability of the event in the corresponding column. The person analyzing the results can average the responses to generate a summary; this summary is known as a cross impact analysis. (Liaisekit, 2020)

Ethnographic Delphi Futures Research

This research is a Ethnographic Delphi Futures Research (EDFR). EDFR came from Ethnographic Futures Research (EFR) and Delphi Technique. Ethnographic Futures Research (EFR) is a method invented in 1976 which futures researchers employing a sociocultural approach can use with a sample of interviewees to elicit their perceptions and preferences among possible and probable alternative futures for their society and culture. EFR is an adaptation of the spirit and method of cultural anthropology and ethnography to the needs and constraints of futures research (Chumpol, 2001)

1. The EDFR

EDFR, a developing futures research technique, combines the strengths of both EFR and Delphi. The strengths of both techniques help connect methodological weaknesses of each other. The procedural steps of EDFR, generally, are similar to those of the Delphi technique. The major characteristic that serves to distinguish EDFR from an ordinary Delphi is the use of EFR in the first round of the Delphi. Giving the opportunity for panel experts to consider all systematized and analyzed data gathered from the first round of the EDFR and respond again and again in the way they are asked to, as is commonly done in Delphi, dis-tinguishes EDFR from the typical EFR technique. In EFR, during the

interviewing the ethnographer, at appropriate times, feeds back a sumlll.ary of what the interviewee has said, and then asks the interviewee to correct errors and/or refine his/her own responses. In EDFR, each panel expert not only receives and refines his/ her own responses, as in EFR, but also receives the entire group's responses (usually presented in a form of a statistical report); considers responses of the entire group; and then reconsiders his/her responses. Each panel expert is also asked to respond and/ or evaluate other panelists' responses, which in the first round of the EDFR (EFR interviewing) he/she has not mentioned. This iterative process might confirm for two or three rounds in order to refine the consensus of the group.

An example of detailed EDFR procedures is described in my research paper-Ethnographic Delphi Futures Research : Thai university pilot project. The EDFR procedures used in this study consisted of five steps. They were Preparing Subjects, Interviewing (EFR), Synthesizing Data, Developing Survey Form (Ques-tionnaire) and Delphi Probing.

2. EDFR VS. Delphi

In Delphi, a set of questions developed (and controlled) by the researcher, is commonly used in the first round of probing. This technique, to me, underestimates the expert's expertise in terms that it limits not only information within the studied issues or questions, but also other information (issues. problems feedbacks=) uncarefully and/or ignorantly left by the researcher. For example, in Delphi study, if the researcher wanted to study alternative futures of A, he/ she would develop questions or topic issues he/ she believed important and relevant to the studied issues A, say, A1 A2, A3, A4, and send them to all panel experts. It is quite common that if the researcher sent a questionnaire of four questions, he/she would be likely to receive answers within the scope of those four questions. The point is that, the researcher might unknowingly leave out A5, A6, which are considered by the panel experts as very important and relevant to the studied issue A.

In EDFR, all information (issues, problems, feedbacks,) given by the panel expert during the first, second, and third rounds of probing are fully recognized. In the first round of EDFR, the panel expert is asked to project and talk about alternative futures of studied issue A. The panel expert is free to talk and discuss any sub-issue he/she thinks it is important and relevant. By this way,
the panel expert might come out with A 5• A 6 , which could be incorporated into the study right away. In case that the panel expert does not mention any one of A1, A2 , A 3, A4 , which the researcher has had in mind, the researcher can ask the panel expert to do that.

3. EDFR VS. EFR

In EDFR, scenarios are written up based on data gathered from the interviews, as done in EFR, and statistical data gathered from the second and/or third rounds of EDFR. as done in Delphi. This procedure has some advantages over EFR in terms that it allows researchers to collect more issues and trends which are omitted in EFR. This will be clarified later.

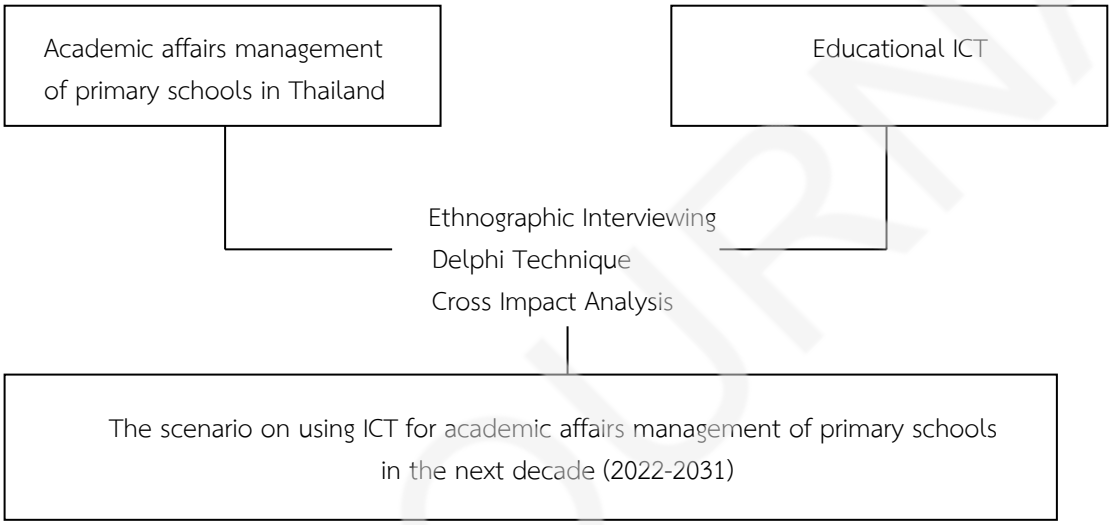
The interviewing technique used in EFR is described by Textor as nondirective technique. As a result, even though some structural probing questions are provided during the interviewing, each interviewee might not talk about studied issue (s) in the same sense or details. For example, one interviewee might mention one specific trend or some other trends which have not been mentioned by other interviewees and even by the interviewer. In this case, those trends would be ignored or deleted because there was no consensus. In EDFR, every single issue and trend will be presented to all panel experts to consider in the second and third rounds. By this iterative process, trend mentioned in the first round might receive high consensus both as optimistic or pessimistic and most probable trends. In EFR, the most probable scenario is hard to get. In EDFR, the most probable scenario can be obtained through

the use of Delphi technique and simple statistics.

In conclusion, EDFR combines the strengths of both Delphi and EFR techniques. The strengths of each technique help solve problems and help correct weaknesses of each other. EDFR, therefore, is a potentially powerful research technique for not only Futures Research field, but also other social sciences. EDFR, as a technique, can be used in investigating problems of political conflicts, cross cultural and comparative studies, and international .relations. However, EDFR is a very time consuming technique. (Chumpol, 2001)

Conceptual Framework

In this research aimed to find out the scenario on using ICT for academic affairs management of primary schools in the next decade (2022-2031) from the conceptual framework as follow.



Picture 1 Conceptual Framework

Research Methods

This research used mixed methods research. The data collection came from opinions and decisions of experts based on the scenario on using ICT for academic affairs management of primary schools in the next decade (2019-2028). The procedures were as follows.

1. To select the 20 experts using by purposive selection. The experts were divided into 4 groups. They were comprised 1) 5 school administrators of master ICT schools, 2) 5 educators who were related to educational administration, 3) 5 educators who were related to ICT, and 4) 5 educational administrators.

2 To interview the experts using by Ethnographic Futures Research (EFR). The interview form was used as a research tool. The interview consisted of the scenarios and alternatives on using ICT for academic affairs management of primary schools in the next decade (2022-2031).

3. To collect the opinions of experts identified in 3.2; to analyze, synthesize, and create the questionnaire. The questionnaire will consist of scenarios using ICT for academic affairs management of primary schools in the next decade (2022-2031). It will utilize a five-point, Likert-type scale.

4. To survey the opinions of experts by using two rounds of Delphi Technique.

5. To analyze the data from 3.4 using Frequency, Median, and inter-quartile Range. The analysis used for each trend and will add the results to the new questionnaire for Round II of Delphi Technique. The Round II questionnaire of Delphi Technique was sent to the experts for their responses.

They were measured with Mean and Inter-quartile Range scores for reconsidering their responses, once sent back to the researcher.

6. To create the futures wheel of the scenario on using ICT for academic affairs management of primary schools in the next decade (2022-2031) from the consensus of EDFR.

7. To confirm the scenario of using ICT for academic affairs management of primary schools in the next decade (2019-2028) by utilizing a cross-impact matrix analysis technique. The research tool was a questionnaire with a five-point Likert-type rating scale with .989 reliability. The scenario confirmation used a survey method. The processes were as follows.

7.1 The population was 24,042 primary school administrators under the office of primary educational service areas from all over Thailand.

7.2 The samples were 380 primary school administrators under the office of primary educational service areas from all over Thailand. They were generated by using a Cluster Random Sampling. They were collected from four regions in Thailand - Northern, Middle, Northeastern and Southern. There were 95 administrators from each region.

7.3 The data collection used post analysis.

7.4 The data analysis was calculated to find out Frequency and Percentage.

7.5 The criterion for consideration of cross-impact used a minimum of 30 percent.

Population and Samples

1. The 20 experts for Ethnographic interviewing and Delphi technique came from purposive selection. They were 4 groups as follow.

1.1 5 experts on educational administration who had Ph.D. in educational administration and 10 years experience at least as the lecturer or educator.

1.2 5 experts on primary school administration who had award in school administration and 15 years experience at least as the primary school administrator.

1.3 5 experts on ICT administration who had Ph.D. in ICT and 10 years experience at least as the lecturer or educator.

1.4 5 experts on educational policy who had experience as chief executive of the Basic Education Commission.

2. The population and samples in cross impact analysis were as follow.

2.1 The population was 24,042 primary school administrators under the office of primary educational service areas from all over Thailand.

2.2 The samples were 380 primary school administrators under the office of primary educational service areas from all over Thailand. They were generated by using a Cluster Random Sampling. They were collected from four regions in Thailand-Northern, Middle, Northeastern, and Southern. There were 95 administrators from each region.

Research Instruments

1. The ethnographic interview form

2. The five-point, Likert-type scale questionnaires for round II and III of Delphi technique

3. A questionnaire with a five-point Likert-type rating scale for cross-impact matrix analysis technique

Data Collection

1. The opinions collection of the 20 experts using by Ethnographic interviewing. The interviewing consisted of the scenarios and alternatives on using ICT for academic affairs management of primary schools in the next decade (2022-2031).

2. The opinions of 20 experts by using two rounds of Delphi Technique consisted of scenarios using ICT for academic affairs management of primary schools in the next decade (2022-2031). They were used survey method.

3. The confirmation of scenario of using ICT for academic affairs management of primary schools in the next decade (2022-2031) by utilizing a cross-impact matrix analysis technique used a survey method.

Data Analysis

1. The content analysis was used to analyze and synthesize the opinions of experts from their ethnographic interviewing.

2. The statistics to analyze the data from two rounds of Delphi technique were Frequency, Median, and inter-quartile Range.

3. The cross impact analysis was calculated to find out Frequency and Percentage.

Results and Discussion

The experts had consensus on every scenario of using ICT for academic affairs management of primary schools in the next decade (2022-2031). There were 32 scenarios as follows.

1. The results of the scenario of using ICT for academic affairs management of primary schools in the next decade (2022-2031) from EDFR had consensus with every scenario. They are shown in Table 1.

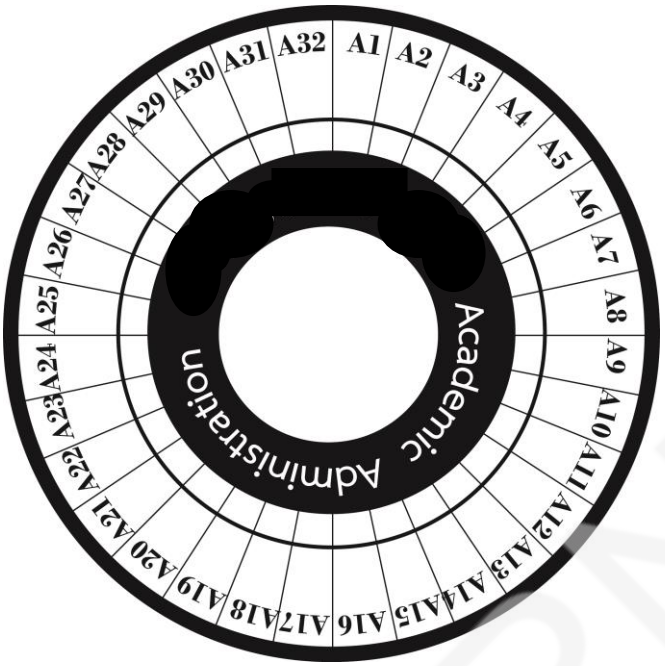
Table 1 The scenario of using ICT for academic affairs management of primary schools in the next decade (2022-2031)

Code	Scenario
A1	School uses ICT for creating an educational quality development plan under the educational quality assurance system
A2	School uses ICT for assessing the school curriculum, and core curriculum of basic education
A3	School uses ICT for connecting the school curriculum, local curriculum, and core curriculum
A4	School uses ICT for creating, finding, and using instructional media
A5	School uses ICT for school data collection, connecting systemic data, and pulling from the central data by the level of confidentiality of the data all the time as its delivery system
A6	School uses ICT for systematically examining the data storage, saving data, and information in the data center and assuring ease to access
A7	School uses ICT for teaching less and learning more
A8	School uses ICT for transferring learning achievement and course credits
A9	School uses ICT for research and research distribution
A10	School uses ICT for education quality development
A11	School uses ICT for supporting and promoting the academic affairs, academic services to educational management sectors such as people, families, organizations, business sectors and other institutes.

Table 1 (Continue)

Code	Scenario
A12	School uses ICT for promoting professional learning community
A13	School uses ICT for building and developing learning resources
A14	School uses ICT as a learning resource, both inside and outside the school
A15	School uses ICT for sharing knowledge and connecting the experience with constituents
A16	School uses ICT for organizing the systemic internal mentoring system
A17	School uses ICT for guiding system management
A18	School uses ICT for supporting students to develop systematic learning
A19	School administrator uses ICT for controlling, caring, mentoring, and following academic affairs management
A20	School administrator uses ICT for coordinating academic development between school and other organizations
A21	School administrator uses ICT for creating rules and guidelines for the operation, acceptance and understanding of academic affairs management
A22	Teachers and school administrator use ICT for academic planning
A23	Teachers and school administrator use ICT for analyzing and selecting the quality books and lesson documents related to the school curriculum for quality instruction
A24	Teachers use ICT for analyzing and developing learning plans
A25	Teachers use ICT for analyzing and creating the course descriptions, learning units, and learning plans
A26	Teachers use ICT for searching data from different resources to be used as guidelines for creating learning plans
A27	Teachers use ICT for adding content of the subject matter according to authentic statements
A28	Teachers use ICT for promoting instructional management, creating media, and innovation that is emphasized on learner- centered instruction
A29	Teachers use ICT for creating learning activities
A30	Teachers use ICT for developing learning processes according to interest and intelligence of the learner
A31	Teachers use ICT for creating educational evaluation and assessment tools
A32	Students use ICT for self- directed learning and self- practice of basic ICT usage

2. The 32 scenarios of using ICT for academic affairs management of primary schools in the next decade (2022-2031) from EDFR had consensus with every scenario. They were created by utilizing the futures wheel as seen in Picture 1.



Picture 2 Futures wheel of academic affairs management of primary schools in the next decade (2022-2031)

3. The confirmation by cross impact matrix analysis of 32 scenarios of using ICT for academic affairs management of primary schools in the next decade (2022-2031) had impact among the scenarios in every scenario. The impact values among the scenarios were very high (between 92.08%-97.36%) See Table 2 for information of samples.

Table 2 The information of samples

Samples	Frequency (380)	Percentage (100)
Gender		
Male	257	67.63
Female	123	32.37
Age		
30 – 40 years old	42	11.05
41 – 50 years old	145	38.16
51 – 60 years old	193	50.79
Education		
Masters Degree	354	93.16
Doctoral Degree	26	6.84
Work Experience		
Under 10 years	117	30.79
10 – 20 years	160	42.11
21 – 30 years	57	15.00
Over 30 years	46	12.10

The research results found the scenarios of using ICT for academic affairs management of primary schools in the next decade (2022-2031) had consensus and very high impact among the scenarios in every scenario because now ICT was utilized more into their daily life activities. The activities have to use ICT. It is also in primary schools. Primary schools used ICT for data storage to keep data, information, news, and knowledge accessible. They became data centers. ICT assisted them easier. Teachers and school administrators used ICT for planning. Students used it for their learning activities and basic skills practice. According to Section 39 of The National Education Act 1999 and revised 2002 (edition II), '...the ministry shall decentralize powers in educational administration and management regarding academic matters, budget, personnel, and general affairs administration directly to the committees and office for education, religion, and culture of the educational service areas and the educational institutions in the area...', section 65 '...steps shall be taken for personnel development for both producers and users of technologies for education...', section 66 '...Learners shall have the right to develop their capabilities for utilization of educational technologies as soon as feasible...', section 67 '...the state shall promote research and development; production and refinement of technologies for education; as following-up, checking, and evaluating their use to ensure cost-effective and appropriate application to the learning processes of the Thai people...' As the study of Gurr (2006) had discovered, the influences of ICT on work and life as knowledge consumers and producers in the 21st century were successful. The two keys success factors were with 1) The student factor; ICT knowledge for work and life-long learning, and 2) School administrators and teachers factor; their strategic development to accept ICT for teachers and stakeholders, and the quality of leadership and vision of educational administrators and leaders. They were technology users, resource managers, people leaders, and transformational leaders. Ksurimon et al. (2018) had studied using ICT management models for Lab schools in Kalasin province, Thailand and found key elements. The key elements were management systems. The key input was the 4Ms: Man, Money, Material, and Management through the four management processes, Planning, Organizing, Leading, and Controlling. They were also the roles of school administrators to use in four factors of ICT management in Lab schools. They were comprised of 1) Student quality was potentially developed in using ICT for learning activities; 2) Internal education management was efficient and the management process and curriculum management for learning process were developed; 3) Learning and development were potential developed for school administrators, ICT teachers, and teachers; and 4) Budget and resources were needed for essential infrastructures, factors, and budget.

Conclusion

The 32 scenarios of using ICT for academic affairs management of primary schools in the next decade (2022-2031) had consensus and very high impact among all of the scenarios.

Contribution

This research is dedicated to providing high quality research to educators that use scenarios and research results that research should be offered alongside educational administration so that it can deliver a truly comprehensive using ICT for academic affairs management of primary schools in the next decade (2022-2031) from the perspectives of the experts that are verified by the survey results of primary school administrators from all over Thailand.

Suggestions

From the research results, the researcher had suggestions as follows.

1. School administrators, teachers and students can use the scenarios of using ICT for academic affairs management of primary schools as the guidelines for work operations and learning.

2. The primary schools under the office of basic education commission can use the scenarios of using ICT for academic affairs management for planning and adaptation, preparation, and changes.

3. The Ministry of Education can use the scenarios of using ICT for academic affairs management to support and promote the primary schools to be highly effective and efficient.

Limitations

The limitations of the study are research design and methodology that influenced the interpretation of the findings from this research. This research is a futures research that proposed the scenarios of using ICT for academic affairs management of primary schools throughout the perspective of 20 experts. They forecast the possible happened in the next decade (2022-2031) of the using ICT for academic affairs management of primary schools.

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