

Scenarios of Secondary School Management During the Digital Era in the Next Decade (2022-2031)

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Abstract

Nowadays, technological advances in providing transformations in the school scenario, and one of them are the drastic change in secondary school management during the digital era. The purposes of this research were 1) to study the current situations and problems of secondary school management during the digital era; 2) to study the scenarios of secondary school management during the digital era in the next decade (2022-2031). The research specifically looked into 4 core missions of secondary school: 1) management of teaching and learning 2) personnel management 3) budgeting and 4) educational management. The research was conducted in 2 phases. Phase I: studying the current situations and the problems of secondary school management during the digital era by using a questionnaire to collect data from a sample group of 230 secondary school administrators. Phase II: studying the scenarios of secondary school management during the digital era in the next decade (2022-2031) using Ethnographic Delphi Futures Research (EDFR) for 3 parts. Part 1: Interviewing 19 experts using a semi-structured interview form and then analyzing and synthesizing the future tenders (scenarios). Part 2: Assessing the feasibility and the appropriateness of the scenarios by using a 5-level scale questionnaire. The statistics used were median and interquartile range. Part 3: Confirm trend scenarios of secondary school management during the digital era in the next decade (2022-2031). The findings revealed that the current situations of practice are all at a high level and the problems of the management are all at a moderate level. The scenarios of secondary school management during the digital era in the next decade (2022-2031) consist of 4 key elements and 40 possible trends, namely: 1) management of teaching and learning in the digital era with 15 possible trends. 2) educational personnel in the digital era with 10 possible trends. 3) budget in the digital era with 6 possible trends and 4) educational management in the digital era with 9 possible trends.

Keywords: scenario of education in the future, secondary education, education management in the digital era, Ethnographic Delphi Futures Research (EDFR)

1. Introduction

The current world situation is rapidly changing in every aspect, both in terms of economy politics, society, and technology are changing that involved a lot of technology and Thailand has Brough various technology into the country even more, Thailand, therefore, has set a master plan to promote the digital economy 2018-2021 specifies the visions that “to the digital economy that Dynamic on the foundation of a cognitive society knowledgeable and manpower that can adapt and create opportunities from technology and digital innovation” by setting strategies in 3 areas: 1) Developing manpower for the digital era 2) Updating the economy to Digital Thailand and 3) driving communities towards a digital society of digital promotions(Digital Economy Promotion Agency, 2017). Technology plays an important role in work, especially in education, technology plays a significant role in teaching and learning management. Therefore, educational administrators or school administrators play an important role in driving education to keep pace with current changing events of digital impact. The digital age is the technological era of the modern world that is full of the speed of change. Focusing on the development of equality potential and the maximum effectiveness of the changes that occur is what needs to be accepted in the organization. Leadership Challenges in the 21st Century, therefore, focus on change management that can lead the organization to achieve its goal and find success according to established goals or visions. Educational institutions remain available, with added quality competency in developing people to have the ability to be self-reliant and sustainable creating change agents of school is therefore extremely important in

a digital age that can store and use data without limits. Leaders, today, must have the ability to utilize routine work to be strategic operations with strategy, and visions, through the support of technology for quick decision-making, and long-term and short-term goals to meet the speedy daily changes (Pakotung, 2019). School administrators, therefore, are the persons who play an important role and are the keys to success in developing Education 4.0 effective education management to cope with challenges and changes in this era. The changes during the digital era affect management changes in all departments, including secondary schools, which manage secondary education which is a basic education that develops students physically, intellectually, emotionally, and socially to be good members of society, good citizens of the nation, Therefore this learning stage can build basic skills for occupations according to aptitudes and interests including preparing students to continue their studies at higher levels. Secondary schools are responsible for teaching and learning to meet the needs of the students. Society and the nation, the adaptation to educational institutions when the world situation and technology of the modern world change. Secondary school management needs to be adapted to keep up with the changes, especially to give students the learning skills of the 21st century.

In Thailand's secondary education management to compare the competitiveness ranking with other 63 countries around the world measured by the International Institute for Management Development (IMD) found Thailand, The evaluation results were included in 33rd place, in terms of educational infrastructure were ranked 56th, presented in the form of a statistical competitiveness comparison, found that 5 countries that maintained the same ranking were the United States, Hong Kong, Singapore, Switzerland, and Denmark, Thailand ranks 7th, followed by Hong Kong, Singapore, Japan, Malaysia, China, and Taiwan, by the performance of technology and communication infrastructure. There is also a weakness in the relatively low number of computer and Internet users with technological skills. Thailand was ranked 26th among countries in Asia, including the public and private sectors have little participation in supporting the development of technology. Thailand's educational competitiveness is ranked 47th out of 57 countries, with only 71 percent ranked 49th. Regarding the quality of education, IMD considers various criteria of secondary student-to-teacher ratio is 21.7:1 Mathematics-Science Achievement in the PISA Project of 15-year-old students were ranked 39th, with the ability to use English ranked 51st in terms of educational efficiency. Considering education expenditure per gross domestic product (GDP) is 4.4 percent and education expenditure per capita is 165 US dollars, ranked 52nd, and in the year 2022, it was found that the educational infrastructure Ranked 53rd for the Programme for International Student Assessment (PISA), demonstrating the abilities of students in UNESCO's Organization for Economic Co-operation and Development (OECD) member states, the assessment results of Thailand Thai students aged 15 who are studying in junior high school. They had an average reading of 393 (OECD mean of 487), Mathematics of 419 (OECD mean of 489), and Science of 426 (OECD mean of 489) decreased by 16 points, and mathematics and science increased by 3 points and 4 points, respectively, which in the statistical test assumed that mathematics and science had not changed compared to the previous assessment cycle indicating that the Thai education system has a quality part that can develop students to be able to reach a high level (Secretariat of the Council of Education. 2017, p. 164)

The rapidly changing world in the digital age has resulted in changes in the operations of various organizations both public and private sectors. Secondary schools are one of the organizations responsible for providing basic education. It is necessary to adjust the management of educational institutions to be consistent and keep up with the changes. Knowing the trends in secondary school management in the digital age in advance will be a great benefit to secondary school management in the future. From significance, problems, reasons, and various references, the researcher, therefore, is interested and focused on studying scenarios of secondary school management during a digital era in the next decade (2022-2031) That is, to study possible trends in the future and be able to bring to policy proposals for secondary school management, designing teaching and learning at the secondary level study of the next country.

2. Research Conceptual Framework

In this research, the researcher has formulated a research conceptual framework consisting of 2 frameworks, the 1st framework for secondary education management and the 2nd framework for research methodology. The details are as follows:

The 1st framework: Secondary Education Management consists of 4 aspects as follows: 1) Instructional Management in the digital era, 2) Educational personnel in the digital era, 3) Budgeting in the digital era, and 4) Educational management in the digital era (National Education Act, 1999; Ministry of Education Administration Act, 2003; Office of the Basic Education Commission (2003); Regulations of the Office of Upper Secondary Education Administration (2010) each aspect consist of the component as follows:

I) Instructional Management in the digital era consists of 6 components: a. Student development planning, b.

Learning skills, c. Desirable characteristics, d. Learning styles, e. Organizing activities and promoting learning, f. Measurement, and evaluation of learning outcomes (Khaemane, 2009; Ministry of Education, 2008, 2011; Office of Upper Secondary Education Administration, 2010; Christen, 2009; Strahan et al., 2009; Mosenson & Fox, 2011; Costello, 2011; Martinez, 2002; Malone, 2009).

II) Educational personnel in the digital era consist of 3 components: a. Development of knowledge and abilities, b. Teaching skills, and digital technology media, c. Teacher professional ethics (Tuchinda, 2012; Nuntee, 2012; Makaranurak, 2011; Ovravetz, 2011; Brown, 2011; Linn, 2008).

III) Budgeting in the digital era consists of 2 components:

a. Financial and accounting management

b. Supplies and asset management (Ministry of Finance, 1972, 2017; Clune, 1994; Odden, 2011)

IV) Educational management in the digital era consists of 4 components: a. Administration, Buildings, Public Utilities Buildings, b. Learning resources, c. Bilateral education management, d. Community and network services (Makaranurak, 2011; Tuchinda, 2012; National Institute for Development of Teacher, Faculty Staff, and Educational Personnel, 2005; Thienput, 2006; Office of Upper Secondary Education Administration, 2017; Wilson Jr., 2011; Peters, 2012; Cayetano, 2011; Krieger, 2011; Ramanna et al., 2011; Chaudhary, 2009).

The 2nd framework: research methodology, the researcher used futures research by using the Ethnographic Delphi Futures Research (EDFR) technique (Poolpatchewin, 2009) which is consist of 3 parts: Part 1: expert interviews, Part 2: studying scenarios through questionnaire, and experts' confirmation of possible trends, and Part 3: confirm and ascertain scenarios consensus from the same experts on possible trends and opinions, correspondence using questionnaires, and drawing high probability trend of scenarios.

3. Research Objectives

- 1) To study the current situations and problems of Thai secondary education management during the digital era.
- 2) To study the scenarios of secondary school management during the digital era in the next decade (2022 - 2031).

4. Research Methodology

The researcher has defined the research process into 2 phases as follows.

Phrase 1: to study the current situations and problems of Thai secondary education management during the digital era by using a questionnaire with reliability coefficient level of 0.98, data analysis by means, and standardization.

Phrase 2: to study the scenarios of secondary school management during the digital era in the next decade (2022-2031). This phase used Ethnographic Delphi Futures Research (EDFR) techniques there are 4 parts as follows:

Part 1: Interviewing experts using a semi-structured interview from using research results from phase 1, and then analyzing interview results, and processing by a computer program.

Part 2: Studying scenarios of secondary school management during the digital era in the next decade (2022-2031), with 19 experts' confirmation of possible trends, and using a questionnaire. The data were analyzed to find the median and interquartile range.

Part 3: confirm scenarios of secondary school management during the digital era in the next decade (2022-2031), seeking consensus from the same experts on possible trends and opinions, correspondence using questionnaires. The data were analyzed to find the median and interquartile range.

Part 4: drawing scenarios of secondary school management during the digital era in the next decade (2022-2031), which is considered with high probability trends. There is a high degree of consistency and the interquartile range does not exceed 1.0.

5. Research Results

According to the analysis of current situations and problems in Thai secondary management during the digital era, the results are shown in Table 1.

Table 1. The mean, standard deviation, and level of the current situations and problems of Thai secondary management

Thai secondary management	Current situations			Problems		
	\bar{X}	S.D.	Level	\bar{X}	S.D.	Level
1. Teaching and learning during the digital era	3.26	0.71	Moderate	3.38	0.62	moderate
2. Educational personnel during the digital era	2.67	0.49	Moderate	3.72	0.19	High
3. Budgeting during the digital era	3.82	0.77	High	3.00	0.60	moderate
4. Educational management during the digital era	4.19	0.58	High	2.88	0.59	moderate
Total	3.49	0.51	High	3.25	0.50	moderate

Table 1 shows the current situation of Thai secondary management overall is at a high level. Considering each aspect was found that the 4th aspect was the highest mean. But problems of Thai secondary management overall are at a moderate level. Considering each aspect was found that the 2nd aspect was the highest mean.

Trends of scenarios of secondary school management during the digital era in the next decade (2022- 2031) were determined against the criteria set which was the most possibility justified and affirmed by the experts with median ≥ 4 , interquartile range ≤ 1 . Forty (40) possible trends were sorted out and asserted, comprising: 1. Management of teaching and learning during the digital era, there are 15 possible trends: 1) variety of online courses 2) organizing more online teaching and learning activities 3) collaborative learning between schools both inside and outside abroad 4) evaluation of learning focuses on competency 5) teaching and learning are more independent 6) accumulating learning units with a good system 7) developing more students' mental well-being 8) learning utilize a variety of tools to promote learning 9) students produce results that compete internationally 10) quality of students in diverse fields 11) teachers have essential digital capabilities 12) subjects are international and diverse 13) OBEC is required, the curriculum must be updated; 14) inter-school learning assessment, and 15) schools have Digital laboratories, 2. Educational personnel during the digital era, there are 10 possible trends: 1) administrators have a vision for using digital technology 2) teachers have skills in teaching using digital technology 3) network partners give importance to the use of digital technology 4) parents encourage students to have tools to learn digital technology 5) teachers have modified teaching methods and content accordingly by using digital technology 6) teachers have modern knowledge in teaching and learning 7) school collaboration networks 8) teachers can create more online courses, 9) teachers have new teaching skills, and 10) school committees give priority 3. Budgeting in the digital era, there are 6 possible trends 1) make a budget plan with a clear system 2) operation is correct, transparent, and verifiable 3) more use in digital technology activities 4) create value and be worth the investment 5) change budget plan to versatility and up to date the development of digital technology 6) to analyze the demand for digital technology and 4. In educational management in the digital era, there are 9 possible trends: 1) schools are quality and higher standards 2) schools can compete internationally 3) schools are more accepted 4) developing the quality of learners based on competencies 5) students challenge and learn new digital technologies 6) schools provide space development 7) there are many types of online learning courses, 8) become a digital learning center for other organizations, and 9) there are many types of digital technology media contests.

6. Conclusion

This research on the scenarios of secondary school management during the digital era in the next decade (2022-2031) concluded in 4 aspects as follows:

1) Teaching and learning in the digital era. The scenarios consist of diverse online courses, organizing many online teaching activities, more co-learning between schools in Thailand and abroad, assessment of learning focused on competency, learning and teaching were more independent, a collection of learning units with a good system, developing more students' mental well-being, using a variety of tools to promote learning, students create works to compete internationally, the quality of students in various disciplines, including teachers, has the necessary digital capabilities, the courses are international and diverse, OBEC needs to update the curriculum, and school-to-school assessment has a digital project.

2) Educational personnel in the digital era. The scenarios consist of executives having a vision for using digital technology, teachers are skilled in teaching using digital technology, network partners attaching importance to the use of digital technology, parents encouraging students to have tools to learn digital technology, teachers have adjusted their teaching methods and content accordingly by using digital technology, teachers have new knowledge in teaching and learning management, there is a network of cooperation between schools, including teachers, create more online courses, teachers have new teaching skills, and school committees focus on them.

3) Budget in the digital era. The scenarios consist of preparing a budget plan with a clear system, the operation is correct, transparent, audited, can be used in more digital technology activities, to create value, worth the investment, including adjusting the budget plan to achieve flexibility, keep up with the development of digital technology, and analyze the demand for digital technology.

4) Educational management in the digital era. The scenarios consist of quality schools and higher standards schools that are internationally competitive, and schools that are more acceptable, developing the quality of students according to their competencies, students are challenged and learn new digital technologies, including the school of development, suitable learning area, more online courses be taught, being a digital learning center for other organizations, and a more diverse digital technology media competition.

7. Discussion

The results of the research that are discussed include scenarios of secondary school management during the digital era in the next decade (2022-2031) in all four aspects as follows:

I) Educational management during the digital era aspect consists of 15 scenarios that are various online courses, organizing more online teaching and learning activities, and co-learning between domestic and international schools corresponds to the concept of Christen (2009) stated that nowadays students who have the opportunity and ability to access the internet will enter the world of interpersonal communication and can access the virtual world where they can find information and study without limits, which Sinlarat (2015) said that the nature of teaching and learning is entering the future world. The boundaries of time and space have changed. Learners can study anywhere, anytime. Students can communicate with teachers which correspond to the concept of Bhayuhah, Sirisuthi, and Lammana (2013) said that learners can gain more knowledge through digital platform all the time through various technological media and transforming education for students. Also, the world of work support, pushing students to find out knowledge in the new era as follows: 1) The teaching and learning must be consistent and close to the students as much as possible. 2) The curriculum must be modern and balanced with the needs of the current global community. Technology and teaching methods must be integrated. Appropriate assessment of learning focuses on competency, teaching, and learning to be more independent. There is a collection of learning units with a good system. Developing more students' mental well-being, using a variety of tools to encourage learning, students can create new projects and have the ability to compete at an international level, students are quality people in a wide range of subject areas which is consistent with Strahan et al. (2009) stated that teaching and responsible teamwork can enable organizations to create effective common ground. The professionalism of the members' results in quality, student performance, and success, focusing on students learning in real-world; realistic situations. Learning processes and practices can be used for the benefit of education, consistent with the concept of Khaemane (2009) who has suggested a model of teaching and learning management that focuses on the learners who have been interested in the CIPPA MODEL based on the organization. There are 5 important components according to the name of CIPPA: Construct of knowledge, Interactive, Process skill, Physical participation, and application 2) Thinking skills' development, namely 2.1) Thinking skills about memory (remembering) 2.2) skills for understanding events (understanding) 2.3) practical application skills (applying) 2.4) creative analysis skills (analyzing) 2.5) skills for evaluating the results of practice (evaluating) 2.6) creative thinking skills (creating) which are consistent with the concept of Sukrat (2016) stated that students in the 21st century must be critical thinkers with analytical thinking is a cognitive process. It is a careful principle of the assessment and has reference evidence to find plausible conclusions; reflective and rational thinking; is the ability to think and distinguish subsections from components that consist of anything, including teachers who have the necessary digital capabilities. Courses are international and diverse. OBEC needs to modernize the curriculum. Evaluation of learning between schools and schools with digital laboratories is consistent with the concept of Costello (2011) summarizes skills that affect achievement, interests, educational strategies, and academic achievement leads to academic achievement and the success of the student factors that should be taken into account include 1) development of achievement goals, expressions, and master plans, 2) dimensions to be avoided, 3) diverse goal images, 4) interest in academic expression, 5) strategic academic deep education. 6) social comparison 7) sustainability of goal acceptance and teaching management trends This is consistent with the concept of Sinpeng (2010) stated that curriculum, educational institutions, and teaching and learning activities should have. There are many ways to develop learners to achieve their goals according to their abilities, aptitudes, and interests.

II) Educational Personnel during the digital era aspect consists of 10 scenarios that are school administrators should have technological visionary, and teachers have digital technological teaching skills that are in line with the concept of Daniels (2022) stated that in promoting self-improvement, teachers should begin to manage their classrooms by issuing rules of the room that everyone must follow clearly defining everyone's duties and

responsibilities. Classroom layout and educational expectations are used to develop a curriculum that learns from experience and can be handled alone through integration and differentiation of faculties, teachers must plan lessons and strategies. Teaching will enable students to develop advanced thinking skills that can be used to solve various social problems and technology skills. Teachers must be up-to-date in using new technologies, which is consistent with the idea of Sinlarat (2015) said that learning with activities to exchange ideas in small groups supports analytical thinking and the exchange of knowledge between learners is an opportunity to foster discussion. Take responsibility for your own learning. Likewise, the content of the course can be adjusted according to the conditions of the study. Economic change in society and politics; making the curriculum ready for changes in order to adapt the existing curriculum; removing unnecessary content which is consistent with the concept of Sinlarat (2015) said the same thing arrangement of content in the media digital electronics, and 6 digital teacher skills, teacher teaching is a very essential teaching activity and skill. The use of technology in teaching and learning helps students gain additional knowledge from textbooks as the world of education changes and must plan the growth of Thailand's education in the future. Hence, the skills of digital teachers are extremely important. This is in line with the idea of Sinlarat (2015) saying the same thing. Students ask questions and submit their homework to the teacher by sending via digital electronic media consisting of blogs and wiki skills to create an online education world for students to develop learning creativity. A skill-building model for training or learning that instructors and students don't have to be in the classroom and can contact each other through social media, such as using Facebook as a learning tool without time or place restrictions. Learners can learn at any time, which is consistent with the concept of Tumthong (2013) which gives an idea on the same basis that teachers use the curriculum and learning management. One of the factors that must be developed is the curriculum skills using blog links, joining online communities, and Twitter to develop skills for the professional development of students. Skills for creating online portfolios of teachers and students through the internet is an online system for checking work and collecting works in the system ready for inspection at any time which is consistent with the concept of Songkram (2013) stated that technology helps in the creation of innovation can be divided into 3 categories: 1) Technology helps users gain more knowledge 2) Technology helps to exchange learning for learning from experience and 3) technology creates knowledge of video production skills to be used as learning content. This can create motivation for learning, in line with the concept of Ovravetz (2011) stated that technology can enhance the education management system to prepare students to be able to participate in the current technological environment effectively. Efficiency, fluent communication, and quality by allowing students to study online, they can talk and discuss longer than students who study face-to-face, and students who study online will be able to express opinions on tasks more than students who learn face-to-face by expressing opinions that go in the same direction. The way to express opinions more accurately than students studying face-to-face may conclude that students studying online were able to express participation, discuss learning issues, and present material more effectively than students who studied face-to-face. Student learning and the professional development of teachers, teachers plan for self-development towards internationalization. Technological developments have made cultural exchanges in a global society which is in line with the concept of Sinlarat (2015) stated that investment in the people (People ware) to prepare the personnel to cope with the technology change rapidly and the government must support technology fully because of the rapid change, teachers must have skills to develop students to understand in the changing world. To create quality leadership of future cooperation, teachers must take into account the state's educational standards and teachers must use the principles of collaboration or teamwork to ensure that students are educated across the board which is in line with the concept of Brown (2011) stated that the skills of teachers to encourage learners to learn effectively include skills to develop learning management styles. Relationship-building skills support teachers, cultural sensitivity skills, content balancing skills, persuasion skills for executive leadership, parent engagement skills, and teachers' teaching skills in the classroom should be used in teaching and learning, including creative questioning skills. To make students able to answer directly to the problem and practice thinking and solving problems on their own. Teaching skills can enable students to come up with creative and actionable answers, skills in selecting knowledgeable teaching contents according to the learning environment that can actually be done, and skills to teach students to think analytically and conceptually. Summarizing information skills for teaching students to apply creative concepts, and skills in measurement, evaluation, and research are consistent with the concepts of Partin et al. (2009). Research-based knowledge empowers teachers to manage their classrooms more effectively. Two teacher-centered strategies were presented to reduce inappropriate behavior among students in the class and encourage more students to exhibit appropriate behavior with the first strategy. Teachers present positive behaviors to reinforce them. Second, teachers provide interactive opportunities to influence expected classroom behavior and foster a positive classroom context. All of these require the support of teachers and administrators, which is in line with the concept of Linn (2008) studying

while students are achieving, teachers should be trained or assessed in these areas. Curriculum preparation skills and student learning goals are required. There are teachers with specific abilities to teach. Motivation Skills for student learning behavior skills focus on ethnic diversity. The ability to observe teaching and learning with accuracy and reliability. Skills provide situations for students to express themselves and teachers to reflect on their performance. Network partners attach importance to the use of digital technology. Parents encourage students to have tools to learn digital technology. Teachers adjusted their teaching methods and content accordingly by using digital technology. Teachers have new knowledge in teaching and learning management, a network of cooperation between schools and quality schools with similar standards. This can be done according to the following components: 1) Integrating learning between subjects. Make students gain knowledge in a variety of disciplines. As a result, the learning standards are similar. 2) Collaborative learning. It is a form that schools must jointly design learning activities for students to have the opportunity to learn together through creative teamwork and learning together using online media. This is consistent with the idea of Sinlarat (2015) stated that the future of communication through new media such as the world of online society, which these communications during the digital era. Teachers and personnel use and learn all information technology systems and must train users to have true knowledge of technology. Electronic media in teaching and learning has a high speed. 3) Develop and provide an online media system 4) Modify and organize classrooms to suit learning activities, and new educational concepts, emphasizing students learning from the environment have proactive learning is transmitted via online media which is in line with the idea of McFarlane and Ogazon (2011) stated that educational management for sustainability is in line with changes in the globalization era. In an economic system that is fiercely competitive across the globe, and into the 21st century, the first challenge is to create a curriculum that has implications for the world's courts of justice, the environment, survival, human rights, and citizenship. All of which have an effect on sustainable education. Non-academy and the second challenge concerning the management of national culture towards sustainability knowledge of science scientific philosophy scientific nature of technology and awareness of science and sustainability, complete sustainability program. The curriculum must be comprehensive and identify activities for sustainable education, and teachers can create more online courses. Teachers have new teaching skills and school committees focus on the ideas of Mosenson and Fox (2011) stated that the model consists of problem-solving skills, thinking skills, communication skills, information awareness cooperation, leadership skills, skills in life, and career management 4) Learning and teaching cooperation are not limited to the classroom. Students must collaborate in a global network without focusing on teaching in the classroom alone but creating students to learn or work together at the local level national level and is linked to international cooperation by working together to learn to know each other, to do with the same goal, to live happily together and the real world, to be good citizens of the global society.

III) Budgeting during the digital era aspect consists of 6 scenarios of operations that are correct, transparent, and verifiable participation in network partners in budget management. The community has participated as follows: 1) Auditing budget usage and having an efficient auditing system. 2) Having good internal control. There may be internal auditors within the school and committees or communities to audit the transparency of the budget. 3) Budget spending is monitored by following the facts of the responsible agency budget money that has been spent. Corresponding to the amount of money that has been allocated or there is a change in the transaction that has been approved and allocated. 4) school financial planning. It has a forward-looking outlook on spending and acts on school finances in line with the Policies of the Office of the Basic Education Commission (2007) where the community takes part in taking care of and inspecting the budget management (Money) for the greatest benefit and worthiness. The budget source is money outside the budget and budget which must be spent strictly according to government regulations used in more digital technology activities to create value, worth the investment, and adequate budget allocation, can be implemented as follows: 1) The budget must be distributed to the school at least 80% of the current budget, leaving 20% for the central area to be really managed. 2) Schools formulate a strategy of sufficiency economy operation, for self-reliance in all matters, using renewable energy to reduce costs. As a result, the use of the budget is sufficient. 3) Implement the budget plan of the educational institution. 5) There is a person responsible for budget disbursement and management in each project/activity according to the budget plan in an orderly manner. 6) Cost-effective use of the budget and transparency, inspecting budget plan as follows: 1) Budget management for maximum benefit by adhering to the concept of the philosophy of sufficiency economy. The clarity of the sufficiency economy concept knows how to use the budget moderately. There is a reason the budget is in line with actual expenditures, and worth spending money. 2) Use of budget consciously and rationally in order to maximize benefits with risk management. Prevention and mitigation of risks bringing a budget for sustainable development are in line with the regulations of the Office of the Basic Education Commission (2008) has classified the types of money in financial budget management of

educational institutions. Budgets are disbursed and resources are used appropriately as needed. Correct disbursement can be checked for every project/activity in accordance with the criteria and method of decentralization of administration and education management B.E. 2550 (Thai Government Gazette, 2007) The budget management of educational institutions focuses on the decentralization of administrative power, work to be flexible and transparent, can check to adhere to the principles of result-based management(RBM) and performance-based budgeting (Performance-Based-Budgeting: PBB) by having the management of the benefits from educational institution assets. Including the procurement of income from the provision of services to be used in the management of education, including modifying budget plans for flexibility in keeping up with the development of digital technology, and analyzing the demand for digital technology.

IV) Educational administration during the digital era aspect consists of 9 scenarios that are quality schools, higher standards, the school is internationally competitive, the school is more established, development of learner quality according to competency, students are challenged in accordance with the concept of Emmer and Gerwels (2005) said that classroom management means conducting activities in the classroom to have a good atmosphere, teachers have given importance to the learning management process for students in terms of classroom system management and materials and equipment that must be used in teaching, choice of rules and teaching methods, student preparation, creating a good starting atmosphere, teaching planning and execution supporting students showing appropriate behavior, communication skills for teaching, behaviors that occur are managed, including grouping of special learners, and learn new digital technologies in line with the concept of Christen (2009) said that at present, students with Internet access enter worlds of interpersonal communication and access to virtual worlds where information and education can be found without limits, and a transformative education for students must stand out. In addition, the world of jobs that support after graduation will naturally be more than other groups of students, consistent with Parasnal's (2022) statement that there will be changes to develop students to their full potential in a very different dimension under development in other areas including school supply development suitable learning areas. There are more courses taught online, being a digital learning center for other organizations and a more diverse digital technology media competition consistent with the concept of Wagner's (2008) Seven Survival Skills, including critical thinking skills and problem-solving skills, skills in working together through networks, and leadership skills. Sinlarat (2015) stated that leadership is extremely important because education is delicate and complex, resulting in long-term results, executives must use many methods to accomplish that task. It requires good planning persuasion flexibility and adapting quickly, effective writing skills data access skills, and data analytics skills. Curious and imaginative, in line with education policy Office of the Upper Secondary Education Administration (2010). Skills needed for learner development include core skills, communication, operations, ICT use, problem-solving, and working with others. Personal learning & development skills, citizenship skills/CSR (citizenship skills), work skills (employability skills), and event/activity planning skills have the skills to manage themselves and others able to work with others and have work ethics in line with the educational reform policy in the second decade (2013-2018) that emphasizes the development of learners in terms of knowledge, abilities, skills and desirable characteristics of learners, guidelines for developing the quality of learners in terms of learning management, schools must provide learners with competencies, skills, and characteristics that are focused which is consistent with the Act National Education Act B.E. 2542 and amended (No. 2) B.E. 2545 (No. 3) B.E. 2553 Education in terms of academic, budget, personnel management and general administration to the committees and offices education, religion, and culture educational area and educational institutions as specified in the Ministerial Regulations, as well as pushing and encouraging teachers to design and organize learning units according to their aptitudes, interests, and full potential of the learners. Provide learning that is linked to the way of life, emphasis on real practice both inside and outside the classroom for not less than 30 percent when studying using a variety of technology media, the ability to use technology teachers teach by using textbooks, but now information technology has stepped in to play a role in changing student learning behaviors. Therefore, the teaching behavior of teachers must change to use more technology, more efficiently this is consistent with the concept of Sinlarat (2015) stated that teachers who play a very important role in the management of the country's education in the past. Nowadays, every developed country has given importance to teachers as they are considered people who play a role in shaping the future of the nation. The development of the teacher learning community must have another role such as teachers must be tech-savvy, and have basic computer knowledge in line with technological changes. Teachers have innovative learning skills, creativity and innovation, critical thinking, problem-solving, communication, and collaboration with basic information knowledge. 3) Teachers must have basic knowledge and skills in media production and communication, Teachers must pay attention to current technology, and understand how to use information technology. Teachers can teach students to use computers in their studies. Searching for various information on the web chapter is an open world without borders instead of traditional

learning. This is in line with the concept of Sinlarat (2015) stated that future teachers must have methods for teaching and learning by using technology media, that are suitable for use in the design innovation for improving the quality of learning to define the role of teachers as learning facilitators, responsible for planning student-centered activities by giving the learners are the thinkers who actually do it, seeking knowledge and discovering the answer yourself as much as possible. Teachers must have skills in language in communication 4) The teacher's teaching still adheres to the original objective. But new innovations have been applied with the use of technology to develop students for learning development. Lifelong learning using a network to create academic cooperation in the online world this is in line with the concept of Mosenson and Fox (2011) which states that in the model of modern teacher development towards the goal of educational development teachers must be aware of the understanding of ethnic diversity, knowledge, and technological capabilities, promote educational opportunities having a variety of data sources many are accessible to students.

8. Suggestions

8.1 Suggestions for Using These Research Findings

8.1.1 Suggestions for Educational Institutions

- 1) Each secondary school has its own context with a different environment, so the factors that will affect the success of this research are different. It is very important for each secondary school to study, and analyze one's own potential in each component to see if they are consistent or how information is appropriate in order to determine the future image of the school itself.
- 2) In the process of collecting data by interviewing experts in each group, the researcher intends to provide research results for change in the international education system in line with the 1997 National Education Act. Therefore, administrators and educational personnel in secondary schools should be aware of implementing strategies and prepare short-term and long-term action plans to create a development system for secondary school students in each school with a variety of practical methods to achieve goals and success in the same direction.
- 3) The research results showed that the future trend of secondary school education management during the digital era in the next decade (2022 - 2031) must change their roles to prepare for changes in social trends that directly affect the national education system. Students are able to compete at an international level and achieve international test results at an acceptable level. Schools must urgently formulate strategies to encourage the adjustment of learning methods to appropriate teaching methods.

8.1.2 Suggestions for the Office of the Basic Education Commission

Scenarios of secondary school management during the digital era in the next decade (2022-2031) will be valuable in improving the quality of national education management, which the Office of the Basic Education Commission can analyze to formulate strategies for developing possible trends in all 4 areas to occur rapidly in terms of development of Thailand secondary education.

8.2 Suggestions for Further Research

The researcher has the following research suggestions according to the research of scenarios of secondary school management during the digital era in the next decade (2022-2031).

- 1) There should be research on scenarios of secondary school management during the digital era in special schools or special projects organized to be able to meet the operation in every dimension and lead to the design of a comprehensive basic education curriculum for further national development.
- 2) To study and research the consistency of the educational management system that is related to secondary education should be thoroughly studied in order to reduce problems and obstacles in the admission system.
- 3) There should be research on the scenarios of secondary school management during the digital era for regional education management and basic information for national education management planning with quality and efficiency.

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