



School management paradigm in digital disruption era

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Abstract

The objectives of this research were to: 1) synthesize components, 2) investigate problems and factors supporting to success, 3) develop paradigm, and 4) formulate policy proposals and practical proposals of school management paradigm in digital disruption era. Key informants were selected by purposive sampling consisting of personnel under the Secondary Education Service Area Office 34, faculty lecturers, and stakeholders. The instruments used were a synthesis form, a confirmative record form, a semi-structured interview form, a draft of preliminary structures, a verification form, an evaluation form, and a meeting record. Data were analyzed by frequency, mean, standard deviation, content synthesis, content analysis, and summarizing.

The results of this study were: 1) The components consisted of five preliminary components and thirteen sub-components, and all components and sub-components were usable. 2) There are five aspects of problems and solutions for five preliminary components. The supporting factors to success and management guidelines were 4 M: Man, Money, Material, Management. 3) Five preliminary structures of school management paradigm in digital disruption era were verified, evaluated, and recommendations to be completed. Each structure consisting of principles, aims, operational methods, and activities, and factors to success. 4) The policy proposals and practical proposals consisted of role of administrators, goals, operations, measurement and evaluation of success, and guidelines to direct and audit in accordance with recommendations.

Keywords: School management, paradigm, digital disruption era

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1. Research Problems

Due to update of school management paradigm, Nathanich, [1] indicated that education is intended to be a primary topic that is always brought up whenever Thailand moves forward. The problems of limited education or educational inequality remain chronic problems for a long time. This is similar to Jen [2] who mentioned that among a global changing and constantly challenging, it is essential to prepare the future generations to be always ready.

In line with the Professional of Psychometric tests & People Development Provider [3] that studied Leadership & Soft Skills: Administrators and Administrative Skills, it was found that in higher positions, if you were a administrator and/or wanted to be a successful administrator, soft skills were more important than anything else, especially, leadership skills.

According to Thiti [4], he has often mentioned concerning digital disruption or disruptive technology. Disrupt is often defined as to stop something continuing in the context of reform or to do anything to achieve new developments.

Concerning the school management readiness for the digital disruption era, Patcharaporn [5] found that changing the perspective of educational organization management in the disruptive world era was, therefore, extremely important. Educational organization should be managed to keep up with the changing world of digital era, which fully changes the education to the world of inequality.

Likewise, Dig-admin [6] defined paradigm as a featured-rich system that allowed schools to establish collaboration and communication channels between teachers, academic and admission boards, students and parents with complete independence of time, adds on space and availability. Moreover, Lina [7] illustrated the educational management paradigm of tomorrow was experienced in many parts of developed countries.

Meanwhile, school management paradigm has to be changed, school administrators must also change their thinking and thinking methods for how to achieve the success goals. In addition, school administrators must adapt immediately when the situation changes in a new normal management; must create a change intervention to be different from the original and structural operations; and must create positive changes for the organization including to skip the planned steps.

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Concerning the above reasons, as a researcher, it is necessary to develop a school management paradigm in digital disruption era that can be used in any context based on the readiness of the school and can be truly applied to all levels of school management.

2. Research Questions

2.1 What are the results of synthesizing components of school management paradigm in digital disruption era?

2.2 What are problems and factors supporting success of school management paradigm in digital disruption era?

2.3 What are the results of developing the school management paradigm in digital disruption era?

2.4 What are policy proposals and practical proposals of school management paradigm in digital disruption era?

3. Research Objectives

3.1 To synthesize components of school management paradigm in digital disruption era.

3.2 To investigate problems and factors supporting success of school management paradigm in digital disruption era.

3.3 To develop the school management paradigm in digital disruption era.

3.4 To formulate policy proposals and practical proposals of school management paradigm in digital disruption era.

4. Research Hypothesis

4.1 The components were synthesized and confirmed being usable to develop the school management paradigm in digital disruption era.

4.2 The problems and problems solutions and factors supporting success were usable to develop the school management paradigm in digital disruption era.

4.3 The correction and suitability were verified more than 70.00 percent and the possibility and utility were evaluated higher than a high level.

4.4 The policy proposals and practical proposals of school management paradigm in digital disruption era were usable for the school management paradigm in digital disruption era.

5. Materials and Methods

The research process was divided into four phases as follows:

Phase 1: Synthesizing the components of school management paradigm in digital disruption era, it was subdivided into two steps:

Step 1.1: The researchers studied the documents, concepts, theoretical papers and related researches for

synthesizing the components. The instrument used was a component synthesis table, and data were analyzed by content synthesis.

Step 1.2: The components school management paradigm in digital disruption era were confirmed. Eight key informants confirming the results of the preliminary components were selected by purposive sampling. They consisted of school administrators from 2 small-sized schools, 2 medium-sized schools, 2 large-sized schools, and 2 extra large-sized schools under the Secondary Education Service Area Office 34. The instrument used was a confirmative record form for useable and unusable components and sub-components, and data were analyzed by checking lists.

Phase 2: Investigating the problems and factors supporting success of school management paradigm in digital disruption era. Eight key informants were selected by purposive sampling, consisting of head department teachers of 2 small-sized schools, 2 medium-sized schools, 2 large-sized schools, and 2 extra large-sized schools under the Secondary Education Service Area Office 34. The instrument used was a semi-structured interview form, and data were analyzed by content analysis. It was subdivided into two parts as follows: **Part 1:** Investigating the problems and problems solutions and **Part 2:** Investigating the factors supporting to success and management guidelines for factors supporting to success.

Phase 3: Developing a draft of the school management paradigm in digital disruption era, it was subdivided into four steps as follows:

Step 3.1: The obtained data from component synthesis and investigation of problems and factors supporting to success were used to draft preliminary structures of the school management paradigm in digital disruption era.

Step 3.2: The preliminary structures of the school management paradigm in digital disruption era were verified. Nine key informants were selected by purposive sampling, consisting of 6 faculty lecturers and 3 school administrators graduated with doctoral degree. The instruments used were meeting agendas, preliminary structures of the school management paradigm in digital disruption era, and a verification form of correction and suitability. Data were analyzed by percentage.

Step 3.3: The preliminary structures of the school management paradigm in digital disruption era after verifying the preliminary structures were evaluated. Sixteen key informants were selected by purposive sampling, consisting of representatives of academic deputy director, teachers, basic school board committee, and parents from 4 sizes of schools under the Secondary Education Service Area Office 34. The instruments used were a semi-structured interview form and an evaluation form of possibility and utility. Data were analyzed by mean and standard deviation.

Step 3.4: The researcher improved the structures

of the school management paradigm in digital disruption era according to the verification results, evaluation results, and recommendations for completing.

Phase 4: The policy proposals and practical proposals of school management paradigm in digital disruption era were formulated. Nineteen key informants for brainstorming session were selected by purposive sampling, consisting of representatives of school director, teachers, and parents from 4 size of schools; 2 supervisors, and 2 group directors under the Secondary Education Service Area Office 34; and 3 faculty lecturers majoring in educational administration. The instrument used were the school management paradigm in digital disruption era and a meeting record. Data were analyzed by summarizing and classifying issues.

The research framework was shown in Figure 1.

6. Results and Discussion

The results of this research were as follows:

Phase 1: Results of synthesizing and confirming the components of school management paradigm in digital disruption era were divided into two steps:

Step 1.1: Results of synthesizing the documents, concepts, theoretical papers and related researches from organizations and educators were as follows:

1. The Twelfth National Economic and Social Development Plan B.E. 2560 – 2564 (2017 – 2021). (Office of the National Economic and Social Development Board, Office of the Prime Minister, Bangkok, Thailand, 2017)

2. The National Scheme of Education B.E. 2560 – 2579 (2017 – 2036). (Office of the Education Council, 2017)

3. The Twelfth Education Development Plan of the Ministry of Education B.E. 2560 – 2564 (2017 – 2021). (Ministry of Education, 2017)

4. Thailand's 20 - Year National Strategy B.E. 2560 – 2564 (2018 – 2037). (Royal Thai Government Gazette, 2018)

5. What is the 'New Normal' of Thai education if distance learning is not the answer? (Thailand Development Research Institute (TDRI), 2020)

6. 'New Disease' creating 'New world of learning': Future of Thai Education after COVID-19 (Fund for Educational Equality (FPO), 2020).

7. Education Reform in the Digital Disruption era (Thailand Education Partnership (TEP), 2019).

8. Learning Management in the 'Disruptive Innovation' Era (Wichai Wongyai and Marut Patapon, 2019).

9. Four disruptive education technologies poised to change higher learning 2020 (Isabel Sagenm?ller, 2020).

10. Disruptive education for meeting the challenges of the future (Iberdrola, 2020).

11. Innovation Management: A New Disruptive Paradigm (Amelia Johannsen, 2016)

12. Digital Disruption with Thai Teachers in the 21st Century (Thiti Theerathean, 2020).

13. Re-skill to be a disruptor in Digital Disruption Era (Ourgreenfish, 2019).

14. The Effects of Changes in the Digital Disruption Era on Education (Pitsini Mano, 2019).

15. Ten Job Skills You'll Need in 2020 and Beyond (Vivien Luu, 2016).

16. World Economic Forum: The top 10 skills you'll need for the future of work (Coorpacademy, 2019).

17. 'Online learning' The Challenges in Education. (Thai Public Broadcasting Service of Thailand (Thai PBS), 2020).

18. ConnectED Leaders: Network and Amplify Your Superintendency (Brian Creasman, Bernadine Futrell, Trish Rubin, 2019).

19. 4 Actions to Be a Strong Leader During COVID-19 Disruption (Mary Mesaglio, 2020).

20. 9 Soft Skills Workers Should Have in 2019 (Nalinthip Phaksrikunkamthorn, 2019).

21. Knowledge skills (Hard skills): Definition and Example (Fischer & Partners, 2020).

22. Top 6 Digital Transition Trends of Educational Process (National Science and Technology Development Agency (NSTDA), 2020).

The details was shown in Table 1.

From Table 1, the results of synthesizing components and sub-components of the school management paradigm in digital disruption era consisted of five preliminary components, divided into thirteen sub-components, as follows: 1) school management system consisted of three sub-components, 2) learning management platform consisted of two sub-components, 3) supporting factors consisted of two sub-components, 4) essential skills consisted of four sub-components, and 5) cooperative network consisted of two sub-components.

Step 1.2: Results of confirmation of components and sub-components of school management paradigm in digital disruption era, all components and sub-components were usable.

Phase 2: Results of investigating the problems and factors supporting success of school management paradigm in digital disruption era were divided into two parts as follows:

Part 1: Results of investigating the problems and solutions were as follows:

1. A problem of the school management system is creation of change intervention to be new normal and different from the original management; therefore, schools should operate work according the set plan quickly.

2. A problem of the learning management platform is the use of distance learning television (DLTV) and online learning system in schools; therefore,

Table 1. Results of synthesizing the components and sub-components of school management paradigm in digital disruption era.

Preliminary components	Sub-components	NESDC	ONEC	MOE	Ratchakitcha	TDRI	FPO	TEP	Wichai	Isabel	Iberdrola education	Amelia	Thiti Theerathorean	Ourgreenfish	Pitsini	Vivien	Coopacademy	Thai PBS	Brian	Mary	Nalinthip	Fischer	NSTDIA	Total
School management system.	New role of administrators in new normal management.					✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15
	Change intervention.	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15
	Enhancing the quality of education.	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
	Distance education television (DLTV)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓				18
Learning management platform.	Online learning system.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓				18
	Practical learning from the workplace.	✓	✓	✓	✓																			8
	Learning from a learning community.	✓	✓	✓																				5
Supporting factors.	Resources.	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	17
	Budget.	✓	✓	✓	✓												✓	✓	✓	✓	✓	✓	✓	17
	Welfare.	✓	✓																					4
	Source of funds.	✓																						5
	Leadership skills.	✓	✓	✓																				17
	Internet of things skills.																							14
Essential skills.	Soft skills.																							14
	Hard skills.																							14
	Decision-making skills - problem solving.	✓	✓	✓	✓																			8
	Skills for building a new knowledge economy.	✓		✓	✓												✓	✓						6
Cooperative network.	Coordination with parents.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
	Community participation.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	12
	Social network.	✓	✓														✓							4

schools should have an ongoing evaluation of learning management.

3. A problem of supporting factors is the lack of a spare budget plan for urgent requirement; therefore, schools should develop a participatory budget plan.

4. A problem of essential skills is the lack of teachers' experiences to provide a new approach of learning management consistent with current requirements; therefore, school administrators should encourage teachers to develop learning managements that enhance a variety of career skills.

5. A problem of cooperative network is communication with parents; therefore, schools should provide parents and the basic school board committees to participate in solving problems from the start.

Part 2: Results of investigating the factors supporting success and management guidelines were as follows:

1. In terms of man factor, teachers should have the potential to develop learners to keep up with the changing events and have appropriate technology skills.

2. In terms of money factor, more budgets should be allocated as urgent requirement and priority.

3. In terms of material factor, schools should have an efficient internet network and be equipped with adequate media, technology, and equipment.

4. In terms of management factors, school administrators should have the skills to solve complex problems and wisely make decisions, build partnerships with educational institutions both government and private sectors for assistance, and provide academic in-

formation through a wide variety of networks.

Phase 3: Results of developing the school management paradigm in digital disruption era were divided into four steps as follows:

Step 3.1: The obtained data from component synthesis and investigation of problems and factors supporting success were used to draft preliminary structures of the school management paradigm in digital disruption era. The results consisted of five preliminary structures as follows: 1) school management system, 2) learning management platform, 3) supporting factors, 4) essential skills, and 5) cooperative network.

Step 3.2: Five preliminary structures of the school management paradigm in digital disruption era were verified by 9 participants in workshop. The correction was average at 94.02 percent and the suitability was average at 93.16 percent.

Step 3.3: Five preliminary structures of the school management paradigm in digital disruption era were evaluated by 16 respondents. The possibility and the utility were at the highest level.

Step 3.4: Five preliminary structures of the school management paradigm in digital disruption era according to the verification results, evaluation results, and recommendations were completed. Each structure consisted of principles, aims, operational methods and activities, and success factors.

1. School management system

- 1.1 Principles:

- 1.1.1 Administrators must keep up with the epidemic news.

- 1.1.2 Administrators must focus on change in-

tervention in new normal to be different from the original aim and towards a positive direction.

1.1.3 Administrators must formulate clearer plans.

1.2 Aims:

1.2.1 To develop administrators to keep up with the change

1.2.2 To develop educational institutions to have a clear action plan.

1.2.3 To ensure schools strictly operate according to the set plan.

1.3 Operational methods and activities:

1.3.1 Administrators have meeting for discussion in order to define the vision/mission/goals of school management paradigm in digital disruption era.

1.3.2 Administrators and teachers modify the action plan to keep up with the current events.

1.4 Success factors:

1.4.1 Teachers have to be developed the potential for developing learners to keep up with the changing events.

1.4.2 Teachers have to be developed to have knowledge and abilities to be academic leaders, including having learning skills and management experiences.

Concerning the school management system in accordance with Thiti [4] who had often mentioned concerning digital disruption or disruptive technology, disrupt is often defined as to stop something continuing in the context of reform or to do anything to achieve new developments. It is often linked to technology, the nature of disruption as replaces the existing one with the new things and a new demand immediately.

2. Learning management platform,

2.1 Principle:

2.1.1 School administrators must have knowledge, abilities, and experiences for educational administration.

2.1.2 School administrators must encourage teachers to have the potential for developing learners to keep up with the changing events.

2.2 Aims:

2.2.1 To develop teachers to have the knowledge and abilities as academic leaders who modify the learning management system in response to changing situations.

2.2.2 To develop teachers to have appropriate technology skills, and skills and experiences for online learning management.

2.2.3 To develop teachers to have the skills and experiences in assessment and evaluation.

2.3 Operational methods and activities:

2.3.1 Provide teachers training on skills and experiences for online learning management.

2.3.2 Encourage teachers to use distance learning television (DLTV) and online learning system for learning management.

2.3.3 Encourage teachers to prepare additional lessons besides distance learning.

2.3.4 Encourage knowledge exchange among teachers from different schools.

2.3.5 Ensure teachers to have continuously learning assessment and evaluation every week to improve the lessons.

2.4 Success factors:

2.4.1 Teachers provide distance learning television (DLTV) and online learning system with quality and efficiency.

2.4.2 Teachers' teaching management has the similar quality.

This result is in line with Patcharaporn [5] who found that changing the perspective of educational organization management in the disruptive world era was extremely important in managing educational organizations in order to keep up with the digital changing in the world, which fully transforms education world to clear inequality.

Nevertheless, Sir Ken Robinson as cited in Ransom [8] stated that schools were still pretty much organized on factory lines-ringing bells, separate facilities, specialized into separate subjects, so education paradigm should be changed.

3. Supporting factors.

3.1 Principles:

3.1.1 School exist resources were used worthy.

3.1.2 School budget was allocated according to their priorities and urgent needs.

3.2 Aims:

3.2.1 To create motivation for cooperative work to achieve goals.

3.2.2 To support technology as a learning center for teachers and students, as well as facilitating teachers in learning management. 3.3 Operational methods and activities:

3.3.1 School administrators mobilize resources from teachers, parents, and alumni association.

3.3.2 School administrators allocate more budget for the Internet to enhance learning management efficiency.

3.3.3 School administrators build the cooperation with educational institutions and agencies both public and private sectors to seek assistance.

3.3.4 School administrators manage budget independently, flexibly, with transparency and accountability.

3.4 Success factors:

3.4.1 The received resources are managed adequately.

3.4.2 Parents and school board committees have confidence and support schools.

3.4.3 The schools are assisted and collaborated with educational institutions and agencies, both public and private sectors.

It is accepted in terms of supporting factors that UNESCO [9] is supporting countries in their efforts to

mitigate the immediate impact of school closures, particularly for more vulnerable and disadvantaged communities, and to facilitate the continuity of education for all through remote learning.

4. Essential skills.

4.1 Principles:

4.1.1 School administrators are role models of transformational leaders, who have skills in solving problems timely.

4.1.2 School administrators have the ability to think critically and make decisions in time of change.

4.2 Aims:

4.2.1 To allocate more budget for technology in order for teachers to use for learning management more convenient.

4.2.2 To prepare the school readiness with adequate media, technology, and equipment for learning in the current situation. 4.3 Operational methods and activities:

4.3.1 School administrators provide information to help teachers solve problems.

4.3.2 School administrators support teachers to attend new learning management training in line with current requirements.

4.3.3 School administrators continually monitor and evaluate results.

4.4 Success factors:

4.4.1 School administrators encourage teachers to develop more learning management that enhance a variety of career skills.

4.4.2 Schools organize more several learning, such as coding.

In terms of the essential skills, it is consistent with the Professional of Psychometric Tests & People Development Provider [3] that study Leadership & Soft Skills: Administrators and Administrative Skills. It was found that in higher positions, if you were a administrator and/or wanted to be a successful administrator, soft skills were more important than anything else, especially, leadership skills.

5. Cooperative network.

5.1 Principles:

5.1.1 School administrators create an effective network with parents and basic school board committees.

5.1.2 School administrators encourage parents and basic school board committees to participate in solving problems from the start.

5.2 Aims:

5.2.1 To provide opportunities for parents and the basic school board committees to take part in the administration of educational institutions.

5.2.2 To ensure school administrators, teachers, parents, and the basic school board committees collaboratively solve the problem.

5.3 Operational methods and activities:

5.3.1 Schools communicate with parents concerning various schedules to perceive the change in

learning management by home visiting.

5.3.2 Schools coordinate with parents to prepare use of distance learning television (DLTV) and online learning system to assist the students.

5.3.3 Schools communicate with parents to relieve tension.

5.4 Success factors:

The School administrators build cooperation with other educational institutions and agencies both public and private sectors to seek assistance and request academic information through a wide variety of networks.

In addition, Keingkai and Jiraporn [10] suggested a guideline that the administrators and teachers should select experts in the community to be a school board in order to help the development of participation continually. Besides, Dig-admin [6] defined that paradigm was a featured-rich system that allowed schools to establish collaboration and communication channels between teachers, academic and admission boards, students and parents with complete independence of time, adds on space and availability.

Phase 4: Results of formulate policy proposals and practical proposals of school management paradigm in digital disruption era were as follows:

1. Role of administrators: administrators should have transformational leadership and use a consideration in making decisions, including monitoring from the original affiliation.

2. Goals of school management paradigm in digital disruption era: there should be emphasized on the flexible curriculum, learning and teaching management, learning measurement and evaluation, and follow-up on the operational results to meet the goals.

3. Operations in accordance with the policy proposal: school administrators should be able to make urgent decisions independently depending on the school context.

4. Measurement and evaluation of success: it should be based on problem-solving in each situation and have various criteria.

5. Guidelines to direct and audit in accordance with recommendations: there should be an opportunity to report to parent agencies and other stakeholders to push the policy into action timely.

Besides, Lina [1] illustrated educational paradigm that it could be broadly described as a foundation, idea or attitude towards the construction of the model of education that led to exigency to reconsider the school principals' roles and functions.

It was different from Barr and Tagg as cited in Januard [11] concerning identifying the outcome-based education paradigm, that learning is held constant while time take to achieve the outcomes is alterable.

7. Conclusion

It could be said that it is important for teachers to be prepared for new situations. Teachers have to redesign most of their teaching methods by means of a flexible approach for all groups of students. It should be recognized that education might be the new normal form. Moreover, schools must cooperate with many sectors, including government and private sectors, by reviewing teaching and learning management system. Therefore, the school management paradigm in digital disruption era is more suitable for new normal management.

8. Discussion with Respect to Research Hypothesis

8.1 The obtained components from synthesizing and confirmation were usable to develop the school management paradigm in digital disruption era.

8.2 The data of problems and solutions consisted of five aspects and factors supporting success consisted of 4 M: Man, Money, Material, and Management. They were usable to develop the school management paradigm in digital disruption era.

8.3 The results of verifying the school management paradigm in digital disruption era, the correction was averagely at 94.02 percent and the suitability was averagely at 93.16 percent. It was higher than the research hypothesis. Regarding the results of evaluation the school management paradigm in digital disruption era, the possibility and utility were at the highest level, which was higher than the research hypothesis.

8.4 The policy proposals and practical proposals of school management paradigm in digital disruption era deriving from 19 participants in brainstorming session consisted of role of administrators, goals, operations, measurement, and evaluation of success, and the guidelines to direct and audit in accordance with recommendations were usable for the school management paradigm in digital disruption era.

9. Recommendations

From this research, the recommendations were as follows:

9.1 This school management paradigm in digital disruption era is essential skills for transformational leaders in solving problems urgently.

9.2 The school network can apply this school management paradigm for administration in theirs school context.

9.3 The teachers may have to change their way of thinking. Some teachers are at the school, but parents as teachers, people in community as teachers. Teachers have to think outside the box to look for methods and innovations for small group learning and more individual learning.

10. Recommendation for Further Research

10.1 There should be the study of the school management paradigm in digital disruption era in primary level, vocational level, and higher educational level.

10.2 There should be the monitoring results of school management paradigm in digital disruption era for the new normal management of Thai education.

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